Abstract of thesis entitled

From Associations *to Info-sociations:* Civic Environmentalism and Information Communication Technologies in Three Asian Tiger Cities

Submitted by

David Sadoway

for the degree of Doctor of Philosophy

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in March 2013

This multi-year, multi-city investigation seeks to examine *how and why* civic associations are employing information communication technologies (ICTs) in their work and the extent to which these uses are transforming urban 'civic space.' Rather than being passive non-state actors shaped by technologies in the 'networked city,' civic environmental associations are treated in this study as co-evolving 'actor-networks' that are both shaping and shaped by their ICT practices. This study systematically examines how ICT-linked tools or platforms are reconfiguring civic associations and civic space in the three 'tiger city' settings of Hong Kong, Singapore and Taipei.

This investigation employs grounded theory, case study methods, and actor-network theory to examine the co-evolution of ICTs and civic environmental associations. The concept of info-sociations (ICT-associations) is employed in constructing a socio-technical model for analysis of the fast-evolving ICT practices of civic associations. Such an approach suggests that diverse forms of ICT-linked *praxis*—where civic ideals and knowledge are being put into practice—involves multimodal digital practices; alongside blended or multiplexed physical and

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virtual practices; and multiscalar practices. The info-sociational model compares ICT-linked *organizational, participatory* and *spatial* practices at the associational level by examining digitally-linked: *internal and external organizational change*; *reconfigurations in the public sphere and cyberactivism*; *scalar transformations and associational alliance formations*. Analyses of city-specific 'civic space' storylines; alongside a discussion of the problems and potentialities of ICT-linked practices also contributes to an integrated info-sociational model. An info-sociational approach therefore serves to examine transformations in *knowledge, power and space* as civic environmentalists employ ICTs.

The info-sociational model supports an analysis of three pairs of age-distinct civic environmental associations in Hong Kong, Singapore and Taipei. These six cases (as units of analysis) were selected for their diverse civic environmental activities; their differences in age; and their variety of ICT-linked practices, including uses for: public deliberations, and mobilizing activism; networked alliance formations; identifying environmental and spatial issues in city regions; and creating alternative green media.

Employing the info-sociational model in analyses of the six civic environmental associations led to the observations that: 'externally-oriented' ICT-linked practices were of greater importance than 'internal practices' amongst civic associations; that groups prioritized 'digital green public sphere' practices compared to 'cyberactivism'; and these associations employed ICTs more frequently for 'alliance-building' than for 'spatial transformations.' Several of the cases illustrated how ICTs can enhance or augment existing alliances and potentially support new types of civic-cyber formations.

By touching on questions of knowledge, power and space an info-sociational approach therefore can contribute to integrated explanations of how and why civic associations are using and (re)shaping ICTs in pursuit of their diverse aims for more livable and just cities.

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by

David Sadoway

A thesis submitted in partial fulfillment of the requirements for the
Degree of Doctor of Philosophy
at the University of Hong Kong

March 2013

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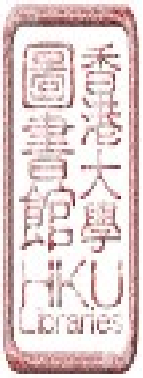
Declaration

I declare that this thesis represents my own work, except where due acknowledgement is made, and that it has not been previously been included in a thesis, dissertation or report submitted to the University of Hong Kong or to any other institutions for a degree, diploma or other qualifications.

Signed……..



Dedication

This work is dedicated to both of my Grandmothers who taught me that to respect the Earth is to respect myself.

And it is dedicated to my niece and nephew whose future, like all others, is connected to the fate of our shared planet.

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A scholar's journey could not occur without the help of family, friends, peers and mentors. Thank you to my parents and sister for your loving support throughout these years.

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List of Acronyms

AAF = associational alliance formations

ANT = actor network theory

CA = cyberactivism

CA = The Conservancy Association (Hong Kong)

CEO = Chief Executive Officer

DHK = Designing Hong Kong

EOP = external organizational practices

GDS = Green Drinks Singapore

GLST = global-local spatial transformations

HKRDM = Hong Kong Rural Devastation Map

HKSAR = Hong Kong Special Administrative Region

ICTs = information communication technologies

IOP = internal organizational practices

IT = information technology

NSS = Nature Society (Singapore)

NGO = non-governmental organization

OPP = obligatory passage point (Callon 1986: 205; Bach & Stark 2005: 39)

OPOL = one person one letter (digital campaigns) (Lai 2005: 99)

OURs = Organization of Urban REs (Taipei)

PRC = People's Republic of China (Mainland China)

PSR = public sphere reconfigurations

ROC = Republic of China (Taiwan)

TEIA = Taiwan Environmental Information Association

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<u>Chapter One.</u> The rise of info-sociations in three Asian cities?

1.1 Introduction: changing civic associations and changing technologies

> *"On the terms imposed by technocratic society, there is no hope for mankind except by 'going with' its plans for accelerated technological progress, even though man's vital organs will all be cannibalized in order to prolong the megamachine's meaningless existence. But for those of us who have thrown off the myth of the machine, the next move is ours: for the gates of the technocratic prison will open automatically, despite their rusty ancient hinges, as soon as we choose to walk out."*
> —Lewis Mumford, The Pentagon of Power (1970: 435).

This study started with a series of open-ended interviews amongst members of civic environmental associations in Hong Kong, Taipei and Singapore. These wide ranging conversations were initially about day-to-day practices; organizational histories; and associational successes, along with challenges faced over the years. Over time the investigator became interested in how a distinct set of technologies appeared to be increasingly shaping the practices of these civic associations.

Exploring the work of civic environmentalists not only reminds us of our intrinsic connection to the natural world in and around highly urbanized spaces—it also underscores the importance of the commitments by passionate citizens voluntarily collaborating to improve the livability of their home places. If civic environmental associations represent forces for change and even hope in working towards livable cities, then how do their day-to-day practices intersect with technologies? In particular, how and why are civic environmental associations employing information communication technologies (ICTs) in their practices—and to what extent might these technologies be transforming civic associations and the civic space where they are situated? What sorts of problems and possibilities arise with these ICT-linked practices? ICT-linked reconfigurations may indeed be problematic, disconcerting, or even disorienting—particularly for civic environmental associations whose traditional work focuses on the importance of social cohesion, civic activism and actions addressing urban environmental issues (e.g. Shutkin 2000; Evans 2004). Such socio-technical transformations signals the need to frame ICT-related civic struggles in the context of *knowledge*, *power* and *space*—including struggles about digital information content and control (Galusky 2003).

These are some of the issues that this multi-year, multi-city and multi-case investigation has set out to explore—and which this First Chapter will further describe. This Chapter consists of four additional sections. The first section introduces the key concepts and variables that are employed (and examined) in this study. The second section—the study's problematization—formally identifies the troika of research questions which drive this investigation. The third section elaborates on three theoretical propositions which will serve as analytical markers along the research journey. Collectively these three propositions serve to advance a distinctly 'info-sociational approach' (in the form of an *info-sociational model)* which has been devised especially for this exploratory investigation. The final section of this initial Chapter provides a map of the overall direction for the dissertation.

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1.2 Key concepts employed in this investigation

A number of key concepts have been employed in this investigation and they include the core variables under scrutiny in the study. These have been selected because they relate to the central themes identifiable in the title of this study; or because they relate to the distinct socio-technical approach which the investigation will further develop. These concepts include: information communication technologies (ICTs); civic associations; civic environmentalism; civic space; Asian tiger cities; actor-networks in the digital city; and *info-sociations.* In order to provide a degree of conceptual clarity, each of these concepts will be further elaborated-upon in the sections which respectively follow.

1.2.1 Information communication technologies (ICTs)

At the most basic level, information communication technologies (ICTs) includes the 'technological tools' which, as Manual Castells suggests, enable: "flows of capital, flows of information, flows of technology, flows of organizational interaction, flows of images, sounds, and symbols" (Castells 1996, 412, cited in Day and Schuler 2004: 4). As flow enabling tools ICTs are not necessarily new technologies and they can include, for example, print media or radio—since both facilitate information and communications flows as McCiver (2003: 41) points out. However, in common vernacular ICTs are associated with contemporary 'technological innovations' (the perpetual process of 'creative destruction,' not to mention socio-environmental impacts) rather than 'obsolete' devices or artifacts. ICTs have also been referred to synonymously with information technology (IT), but missing the 'C', for communications—an increasingly crucial point, given the importance of communicative devices (such as mobile phones) for transmitting and receiving information. Tan et al., (1999: 361) suggest that information technology refers to, "all technologies used in the collection, storing, processing and transmission of information, including voice, data and images." The International Telecommunications Union (ITU), in 2010, included: fixed telephone lines, mobile cellular telephone subscribers, international Internet bandwidth, household computer and Internet access in its 'indicators for ICT access' (ITU 2010: 93-94). Commercial-oriented perspectives focus on ICT products, ICT infrastructure (telecommunications networks; the broadband Internet); ICT demand (e-business/e-commerce); and ICT content (OECD 2009: 3-12). For example, surveys of ICT access and uses in households and businesses in the Asia Pacific featured as 'ICT indicators', the following categories: *radio, telephone, fixed line phones, mobile phones, TV, computer, Internet access and website presence* (OECD 2009: 181-183).

In this investigation 'ICTs' has been employed as an umbrella term (in interviews and surveys) to refer to the types of *information-communication tools* that Castells (1996: 412) has identified in relation to informational flows; as well *the means or media* that civic associations have employed for communicating internally and externally with their members, organizations and broader publics. The term ICTs is being employed here to refer to both contemporary information-communications *hardware* and *ICT-mediated content*—ranging from Internet use, to email use, websites, social media, blogs, and so forth. For example, the Summer 2011 survey

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of civic environmental associations conducted for this investigation identified, "ICT tools or platforms," and included: *social media page, micro-blog, active web site, GIS map, videos, web logs (blogs), email discussion list serve, web conferences, e-newsletters, SMS/mobile phone alerts, hosting e-petitions, formatted e-letters, online surveys/polls and online forums* (Appendix 3).[1] Also noteworthy, Day and Schuler (2004: 9) question the uncritical acceptance of ICTs and the lack of public input or scrutiny and accountability in the steering of their design and regulation (such as monopolistic or oligopolistic ICT/IT practices). Such 'community informatics' research highlights the importance of citizen and civil society input and control in the steering, design and regulation of these increasingly influential technologies.

A definition of ICTs therefore needs to consider the increasing co-evolution—including multimodality of an array of technological tools, platforms and media; multiplexing, or blending virtual and physical uses; and multiscalarity, uses from the local to the global and back—of both IT tools and digital platforms for communications.[2] Understanding how ICTs are co-evolving alongside social organizations, particularly civic associations, will be the key underlying thrust in this investigation. This investigation therefore examines not only how and why tiger city civic associations are using ICTs in their practices, but also how such groups may be (re)defining and (re)shaping the uses of this array of tools in their civic environmental work. And it also discusses some of the critical problems and potentialities with ICT praxis amongst civic associations. But what exactly is encompassed by the term 'civic associations'? The next section will examine this point.

1.2.2 Civic associations

In this study, 'civic associations,' refers to local community groups or organizations ranging from informal to formal groupings, including *counterpublics, social movements* and non-profit or *civil society organizations*—although the primary focus will be on organized or formalized civic organizations (e.g. non-profit associations, non-profit societies, non-profit organizations, or 'not-for-profit limited companies'). In addition, the key type of civic association studied in this investigation will be civic *environmental groups*, although the approach employed in this study may also hold relevance for other types of civic associations that employ ICTs in their practices.

[1] This approach builds-upon the lessons of an ongoing 'communications revolution' which has in a relatively short time witnessed a first generation civic-cyber movement with the establishment (and sometimes failings) of alternative news source and community networking movements (Schuler 2008: 7); second generation ICT networked civic activism that combines, "local autonomy and on-the-ground knowledge and context," with, "the power of cooperation and global framing" (Ibid.), including linked street mobilization, and a proliferation of personalized online web logs (e.g. online diaries or journals) (Ibid. 7-8). Third civic-cyber generation activities that could be added to this list would include the role of social media and microblogging tools abetted by mobility technologies (Castells et al., 2007; Drache 2008).

[2] The term 'multiplex(ing)' (literally, 'of many elements') as it is used in this investigation suggests that rather than treating cities, association and socio-technical systems as distinct unitary phenomenon, that consideration is needed for their heterogeneous, entangled and polycentri nature. In the case of ICTs in civic association multiplexing is used to suggest blended virtual and physical practices and multimodal networ relations. In part this use of the term is influenced by Graham and Marvin's (2001: 184, 204) reference to 'multiplexing' in their Splinterin Urbanism (SU) theory which focuses on assemblages of city spaces and large scale technical infrastructure.

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Civil society organizations (CSOs) have been described by Anheier (2004: 23), as: "self-organized groups characterized by: voluntary participation; relative autonomy from family, market, and state; and a capacity for collective action to advance common interests. Civic actions groups, networks, coalitions and other less formal organizations would also be included under this definition."[3] Social movements have been characterized by Dryzek et al., (2003: 2) as, "an association or set of associations organized around a common interest that seeks to influence collective outcomes without obtaining authoritative offices of government." Urban planning scholar John Friedmann (1998: 23) suggests that, "all social movements may be seen as mobilizations of certain sectors of civil society, whether for protest or some other limited purpose in the public domain." And Warner posits that the public sphere includes the creation of counterpublics in spaces excluded or outside of politics such as pop culture, fashion, in the new media, as well as in the politics of identity and multiculturalism; and in venues where one chooses to make one's private life public.[4] Warner (2002: 86-87) claims that: "a counterpublic maintains at some level, conscious or not, an awareness of its subordinate status. […] Fundamentally mediated by public forms, counterpublics incorporate the personal/impersonal address and expansive estrangement of public speech as the condition of their own common world."

Arguably civic associations have distinct dimensions when understood in an Asian context (Koh & Ooi, 2000: 3; Shigetomi, 2002: 21; Shak & Hudson 2003: 1; Weller, 2005; 2006: 124) including varied forms of: neighbourhood groups, social movements, coalitions, associations, alliances, networks and organizations. In relation to changing civic space in Hong Kong, Singapore and Taipei, associational life will be further discussed in Chapter Four. Civic associations in general, and amongst Asian tiger city civic environmental associations in particular, will provide an important socio-technical arena in this study for understanding the unique interplay between technologies and civic space. For instance, as Bach and Stark (2005: 49) suggest in relation to civic associations (NGOs) employing ICTs, that:

> *"[T]heir liminal role between, local, national, and global situates them strategically with the technospatial: the technologically mediated social and material orders that are defined by the new boundaries of place and technosocial practices."*

'Civic environmentalism' is included the title of this work and it relates to the general type or domain of civic associations which this study focuses upon. But what exactly does this term refer to? This will be the focus of the discussion in the section that follows.

[3] Gidron et al. (1992:3) refer to third sector organizations (including voluntary and nonprofit sectors) suggesting that these include: "an extraordinarily diverse set of organizations lying between the market and the state—organizations that are not strictly government agencies nor primarily profit seeking enterprises."

[4] Referred to as 'subaltern counterpublics,' by Nancy Fraser (2009: 83), these are treated as a type of informal civic association in this investigation which represents: "parallel discursive arenas where members of subordinated social groups invent and circulate counterdiscourses to formulate oppositional interpretations of their identities, interests, and needs" (Fraser, cited in Warner, 2002: 85).

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1.2.3 Civic environmentalism

Civic environmentalism can be distinguished as a community-based, integrated approach—in contrast to top-down, technocratic approaches—for addressing complex socio-ecological problems (Shutkin 2000; Light 2003; Tang 2003; Yang 2005, 2007; Karnoven 2010), as well as a potential expressions of counterpower (Castells 2008). Scholarship in the context of the Asian tiger cities has also converged on some of the key ingredients that researchers have identified for improving urban sustainability—including the importance of civic spaces, livability and democratic civic engagement for urban sustainability (e.g. Ng 2007; Douglass et al., 2008). A number of these issues will be further discussed in both the civic space context (Chapter Four) and in the six individual case studies of civic associations (in Chapters Five to Chapter Seven).

Civic environmentalism was originally conceived as a focus on decentralist, legalist environmental regulatory approaches, with a particular emphasis on the importance of community involvement for addressing non-point pollution (e.g. John 1994). However, environmental organizer William Shutkin—in his pivotal work, *The Land that Could Be: Environmentalism and Democracy in the Twenty-first Century,* (2000)—suggests a more broad-ranging definition for civic environmentalism.[5] Shutkin (2000) contrasts his community organizing take on civic environmentalism with John's (1994) perspective, suggesting that his own (Shutkin's) view: "has more to do with the civic capacity of communities to engage in effective environmental problem solving, and the relationship between the civic life of communities and environmental conditions"(Shutkin 2000: 15).[6]

Civic environmental associations are defined in this study as: *non-profit, voluntary member associations whose focus includes the natural or built environmental and spatial issues, in the context of cities or urban-regions.* Civic environmentalism represents citizen knowledge linked to actions that protect, restore or enhance the natural and built environs. Civic environmentalism typically involves democratic eco-practices in action on several fronts, including: socio-ecological justice and public health activism; eco-education; home place-based respect and local stewardship; integrated, interdisciplinary governance and planning for sustainability; full life cycle urban design; and community livability initiatives.[7] Although less common in the research literature—a civic environmentalist approach has also been used in some studies of local environmentalism in an Asian context (e.g. Tang 2003; Yang 2010).

Despite the fact that some civic environmental advocates have seriously questioned the merits of employing ICTs—because of time and energy commitments; excessive commercialism; and perceived threats to civic discourse and place consciousness (Shutkin 2000: 241; Galusky 2003;

[5] Julian Agyeman and Briony Angus (2003: 353) distinguish between 'narrow' and 'broad focus' civic environmentalism—suggesting that the former stresses legal and policy technical reforms that enhance citizen participation and access to information rights related to environmental issues; while the later emphasizes the holistic ties between environmental and socio-economic problems including discrimination, unemployment and civic disengagement; as well as the deeper need for transformative political change, active environmental citizenship and substantive justice.

[6] The emphasis in Shutkin's work remains focused on how community-based and grassroots environmentalism can tackle urban environmental concerns in an approach that integrates local democratic accountability and social justice concerns, amongst others.

[7] This definition is adapted from an amalgam of works including: Shutkin (2000: 14, 240); Light (2003); and Canizaro (2010: 162).

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Pickerill 2003: 36-57)—others have suggested that these technologies hold potential for empowering environmentally-burdened communities, or improving civic environmental participation (Shulman et al., 2005; Zavestoski et al., 2006). Therefore, research that links ICTs to civic environmentalism in Asian urban settings can provide potentially novel perspectives on how digital practices relate not only to a range of local sustainability challenges but also to how they shape civic associations and civic space.[8] And while a diverse range of literatures on the relationships between 'ICTs and sustainability' does exist (e.g. Graham 2004: 17; Jiang 2009; Tu & Lee 2009; Chan 2010) those works primarily focuses on the environmental impacts of ICTs. Yet another line of research focuses on ICTs potential role in helping to address urban environmental problems [examples in Foth (2009)]. Neither area of research, however, has particularly focused on analyzing *civic environmentalist's ICT-linked practices.* Addressing this research gap, particularly in the setting of three Asian tiger cities, represent one of the key purposes and challenges of this investigation.

Access to and exchange of information has long been recognized as being of vital importance in civic environmentalist thought (John 1994: 282-296; Castells 1997: 129). Indeed, at the turn of the last century Castells (1997: 128) suggested that: "Much of the success of the environmental movement comes from the fact that, more than any other social force, it has been able to best adapt to the conditions of communication and mobilization in the new technological paradigm." Environmental groups have notably been at the forefront of ICT practices—from the earliest days of public Internet uses to recent efforts in digital mobilization, networked activism and formations of ICT-linked civic 'communities of practice' (Castells 1997: 129; Zelwietro 1997; Warkentin 2001: 77; Pickerill 2003: 2-3; Horton 2010: 736).[9] The use of ICTs in civic environmentalism is also arguably illustrative of changes in the broader environmental movement. Mulvihill's (2009: 504) work, for instance, suggests changes to forms of 'traditional' (or what he terms 'declining') environmentalism.[10] Instead of traditional forms of environmentalism which he characterizes as: crisis-driven; ideological, advocacy-oriented, polarizational or adversarial; prescriptive; essentialist; solidarity and revolution oriented; insular; alternative utopian-visionary; bonding or networking; and predominantly western influenced—Mulvihill (2009) posits an "emerging environmentalism," which features: solutions-orientations; a focus on slower or steadier gains; compromising, adaptive and improvisational; pragmatic, dispersed, nuanced and complex; expansive and heterotopian vision with bridging

[8] Andrew Karvonen's (2010) recent case study of civic environmentalism emphasizes the importance of deliberative, process-driven citizen involvement in defining problems and articulating solutions to complex urban environmental questions. Karvonen's analytical frame aligns with 'broad focused' civic environmentalism. Landscape designer Randolph Hester (2006: 4) has also argued for the need to fuse direct democracy and applied ecology as: 'an antidote to the poisons we have inflicted on ourselves and habitation.' Hester's concept of *ecological democracy* has close linkages to civic environmentalism. Hester's work underlines the importance of 'local wisdom', 'attachment to place', and 'networks of interconnectedness and ecological thinking.' Nor is his outlook myopic, as he suggests that part of ecological democracy is a design process of *glocalization*, where local decisions are made in the relation to external forces and local contexts.

[9] Notably Warkentin (2001: 77-78) identifies that Greenpeace has been using email in their organization since the relatively early date (in a digital timeline) of 1985, and employed a permanent web site as early as 1994.

[10] Castells' (1997: 112-113) typology of environmental movements work features 'goals' and 'identity group' categories for a mix of traditional and emergent forms of environmentalism, such as: conservation; nature lovers; wilderness defense; local community; quality of life or health; counter-culture; the green self; ecotopia; save the planet; internationalist eco-warriors; sustainability; green politics; concerned citizens; counterpower; and environmental justice.

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networks; having a diverse global influence; open to the subtle, paradoxical, ambivalent and contradictory; and a blurring of alternative and mainstream (Ibid.).[11] This study seeks to examine if such observations about environmentalists' ICT practices and changing environmentalism applies to civic environmental associations in the three tiger cities.

Discussions on how emergent civic-cyber associations and digitally-driven networks are possibly reconfiguring civic associations, environmentalism and civic space in Hong Kong, Singapore and Taipei will play an important part of this investigation. What is meant by 'civic space' will be the focus of the discussion which follows.

1.2.4 Civic Space

Scholarship in the context of the Asian tiger cities has previously converged on the need for improving civic life and urban sustainability—including the importance of 'civic spaces,' urban livability and democratic governance for sustainability (e.g. Ng 2007; Douglass, Ho & Ooi 2008). In the context of Asian tiger cities, Douglass, Ho and Ooi (2008: 3) have defined civic spaces as: "[V]arious types of life spaces in which civil society finds room to create cultural practices in community lifeworlds." They add that these may be considered: "spaces of social inclusion in which state and private economy are kept at arm's distance from dominating the production and reproduction of culture." Importantly, their definition of civic space includes: 'cyber civic spaces,' which they suggest holds: "the promise of new forms of civic spaces without geographic propinquity" (Ibid.,12). Douglass, Ho and Ooi thus highlight the need for *an analytics of transformations in civic spaces*, suggesting that such an approach could serve as a type of barometer or an:

> *"[I]ndicator of globalization and urban change [and] an important comparative analysis of where capital touches down; how local relationships are reproduced and expanded; and the diverse nature of state alignment with capital and community"* (Ibid., 4).

Besides 'cyber civic spaces' (Ibid.,21-13), Douglass, Ho and Ooi (2008) suggest a diversity of spaces worthy of inclusion as 'civic spaces,' such as: public parks or plazas; public sidewalks and 'main street'; community or civic centers and public buildings; commercial establishments with traditions as civic spaces; private establishments with civic spaces regulated by the state; marginal, illegal or covert and disguised civic spaces; and insurgent spaces (Ibid., 5-14). In this respect their identification of the twin threats facing 'cyber civic space'—from the increasing commercial dominance of corporate conglomerates; and from governmental controls over political information (Ibid., 12-13)—has many parallels to some of the concerns about physical civic spaces in the three tiger cities that will be further identified in Chapters Four to Seven.

[11] Broadly drawing-upon Castells (1997) and Mulvihill's (2009) typologies, ten distinct 'activity types' were employed in this investigation (including in the Summer 2011 survey-questionnaire) to reference diverse civic environmentalist activities in the three tiger cities. These activity themes included: watchdog practices, natural/built conservation, information and education, scientific research, policy lobbying, grassroots organizing, civic society alliance building, government partnerships, green/social enterprise and business partnerships.

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What the term 'tiger cities' refers to in this investigation will be the focus of the section which follows.

1.2.5 Asian tiger cities

This investigation primarily centres its focus on the work and practices of civic environmental associations located in three tiger cities situated on the Western rim of the Pacific Ocean basin: Hong Kong, Singapore and Taipei. The term Asian 'tiger cities,' is employed in this investigation to refer to these three city-regions. The 'tiger' term—also referred to as so-called 'little dragon' economies—was initially used by scholars to synonymously refer to the four (formerly) 'newly industrializing' city and / or state level economies (Hong Kong, Korea, Singapore, Taiwan) (e.g. Douglass 1999: 130). The term 'Asian tiger city' is employed in this study—and not including Seoul due to resource limitations—refers to its three city settings (and civic space storylines) rather than to its central units of analysis (which will be civic environmental associations). Further, these three tiger cities can also be considered as being amongst the international elite of informational societies according to comparative ICT indicators (e.g. Dutta & Mia 2010; ITU 2010: 10), as is discussed further in Chapter Four. Therefore, the behaviors of individual civic associations will be examined in relation to their unique tiger city settings each with its distinct civic associational, environmental and informatics contexts.

Douglass (Ibid.) emphasizes the Asian tigers', "contrasting differences in state-civil society-economy relations." He also identifies a key caveat in attempting to draw comparisons between these settings by suggesting that these are: "groups of societies that are all too often lumped together as a single 'four tigers' or 'neo-Confucianist' development model, but are in fact markedly different in culture as well as in state-society relations" (Ibid.). Such a caveat suggests the need for caution, not only in extrapolating case findings to their single city settings, but also in extending such findings to comparisons between city settings. It will be argued that the civic actor-networks inside each of the three city settings ultimately shape the broader civic space context, as Chapter Four will further elaborate. Indeed, in relation to civic space in Asia, Douglass posits, "that struggle for inclusiveness through activating civil society involves many different strategies and tactics, depending on particular constellations of relations in a given setting" (Ibid.). The six different civic environmental associations which will be the core focus of this investigation can arguably be understood as actor-networks that are situated inside digital or networked cities. Actor-network theory will be one analytical approach that this study employs, however what does this refer to? This will be the focus of the discussion that follows.

1.2.6 Actor-networks in the digital city

Are civic environmental associations simply being deterministically shaped by the digital city and the rise of ICTs, without much choice in such matters? This study suggests that civic groups do not just exist in the digital or network city, but rather are actor-networks also shaping the nature of ICTs through their practices. This investigation will centre its work in understanding

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the ICT-linked practices within and amongst civic associations inside the evolving digital city—which constitutes the three tiger city settings where the investigation is situated. In other words the analytical focus will be on *actor-networks operating in the city, rather than upon the networked city*. It should be noted that actor-network theory (ANT) does not refer to functional 'technical' or ICT networks, but rather serves as a conceptual indicator or mediator for how technologies are shaped by (and shaping of) society. For example, Latour (2005: 129) distinguishes actor-network theory from technical networks or social network analysis; as well as from Castells' (1996) notion of 'network society.' Thrift (2004: 100) suggests that an alternative approach to examining the influence of the 'network society' and 'spaces of flows' is to develop an analytics of technology which examines the multiplicity of mediations and various intersecting actor-networks.[12] An ANT approach represents a social constructivist antecedent of work in 'science and technology studies' (STS). STS posits that technologies may be understood as socio-technical co-constructions, rather than as technologically-triggered impacts or effects.[13] Socio-technical approaches attempt to take a different line than arguments of technological determinism that undermines human agency or volition as was so aptly identified by Lewis Mumford (1970)—the public scholar of technologies and cities—in the quote at the beginning of this Chapter.

This investigation will also frequently refer to 'digital cities' and 'networked cities'; and nested within these urban settings, the 'digital office.' Updating Castells' conceptualization of the 'network city' (1996), Laguerre's (2005) studies—of digital city work, digital offices, the cyber/civic work week, etcetera—underpins his claim that the digital city represents the, "virtual embodiment of the global city" (2005: 171).[14] The notion of digital city has been noted here in order to distinguish between actor-networks in the city (which is this study's core focus) and the networked city (which more aptly represents the urban settings for the study). While actor-networks are not distinct from the digital or networked city—and arguably shape and are shaped by their city-settings—it is important to underline that an info-sociational approach prioritizes the former in its analytical focus. More on the concept of info-sociations and an info-sociational approach will be discussed in the section that follows.

[12] For example, Thrift (2004) argues that Castell's focus upon network-induced societal transformations ('spaces of flows') represents a form of 'myth-making' because it: embeds a technological determinism that overlooks historical technologies related to mobility and flows in urban society (e.g. train, telegraph, telephony); downplays the socio-cultural context of ICT-linked change; emphasizes the novelty of technologies (a sense of 'newness') whilst downplaying the 'everydayness' of socio-technological practices; and misidentifies ICTs as replacements or substitutes for traditional forms of networking (i.e. face-to-face communications) (Ibid., 99-100).

[13] The socio-technical approach posits that: "all relevant social groups contribute to the social construction of technology; all relevant artifacts contribute to the construction of social relations" (Bijker 1995: 288). Bijker reasons (Ibid. 288-289) that these multiple players in technological development also makes it difficult to adequately assess the trajectory of any given technology—whether by the state (such as in 'technology assessments'); by market firms (like the use of 'innovation management'); or by environmentalists (as in employing 'scientific data' to underpin their campaigning).

[14] Laguerre's work focuses on three interpretations of the 'digital city', namely: i) "the expansion, transformation, and reconfiguration of urbai practices brought about by the interface of reality with virtuality"; ii) "aspects of the social and global networks of interaction that urbanite develop because of Internet connectivity"; iii) "the social and physical infrastructure that sustains the deployment, operation and reproductio of urban virtual practices" (Ibid., 172, note 1).

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1.2.7 ICT-associations or info-sociations

The term 'info-sociations'—or information communication technology (ICT) associations—is introduced in this investigation as a socio-technical signifier for representing multimodal as well as multiplexed and/or multiscalar contemporary ICT-linked practices in non-profit civic associations. Although there certainly has been no shortage of terminologies for discussing contemporary info-social changes in cities and civic life—the concept of info-sociations suggests a distinct heuristic applicable to studying (and theorizing) the co-evolution of *civic associations* and *information communication technologies.*[15] The info-sociational concept here refers to civic-cyber associational formations including the changing contemporary ICT-linked practices 'associated' or intertwined with these.[16] Info-sociations involve the co-evolution of information communication technologies (ICTs) and civic associations, including the digital practices of their members, staff, directors and volunteers and interacting publics (Figure 1.1).

The concept of info-sociations has also been employed in this investigation as a socio-technical signifier for *generating theory* about non-stabilized ICT-linked practices (Sassen 2005: 2-3; Dean et al., 2006: xxii; Marres 2006: 3-4), and potentially transformational 'digital formations' involving civic associations (Latham & Sassen 2004: 1).[17] Info-sociations can further be described as (re)mediated connections amongst the grounded activities of citizens in face-to-face physical and virtual networks within an array of interactive communication technologies.[18] In particular, changes in three types of ICT-linked practices are hypothesized in this study as being centrally related to the nominal 'shift from associations to info-sociations', namely: *organizational, participatory and spatial* transformations. This integrated conceptualization of info-sociations therefore links civic associational uses (or experiments) with ICTs to broader idealist frames of reference—whether activist, pragmatist or scientific—situated in changing civic space.

The description above also suggests that info-sociations represent diverse forms of contemporary ICT-linked *praxis* where ideals and ideas in civic associations are being put into practice.[19] Several examples help to illustrate the diverse nature of info-sociational practices.

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[15] The term 'info-sociations' was introduced by the author in a recent paper in *Journal of Community Informatics 8:3* (Sadoway 2012). Examples of the relatively recent lexicon for info-social or ICT and society interactions includes: *netizens, cyber society, civil network society, civic-cyber society, cyberdemocracy, civic networks, digital cities, e-governance, e-government, cyber citizens, cyber-activism, hacktivism, electronic democracy,* and so forth (e.g. see: Schuler & Day 2004; Aurigi 2005: 4; Jenson et al., 2007).

[16] Communication theorist Klaus Krippendorff (2009: 334), distinguishes between 'associational psychology' and computational 'associative memory' or pattern recognition. In the former: "we learn to associate things as a function of experiencing co-occurrences in the world outside, and we seem to organize associations as networks, with those closer to a particular concept recalled more easily than those further apart" (Ibid.)—while in the later—"memories are distributed and the links between them become stronger as a function of the frequency of success. As time passes, associations emerge that allow for the recognition of patterns that a programmer did not have to anticipate" (Ibid.).

[17] Stabilization in this respect refers to technological stabilization as discussed in actor-network theory (Callon 1986 and Latour 1993, cited in Holmstrom and Robey 2005: 184-185). In this reading one phase of the 'translation' of technologies into stabilized actor-networks suggests that this has occurred once they become, "institutionalized and no longer controversial" (Ibid, 168). "Stabilization," of technologies suggest Holmstom and Robey (Ibid., 184-185), "refers both to social stabilization (i.e. institutionalization of values and norms) and technical stabilization."

[18] In this study the terms mediation and (re)mediation are employed to refer to the (re)transmission of information via ICTs.

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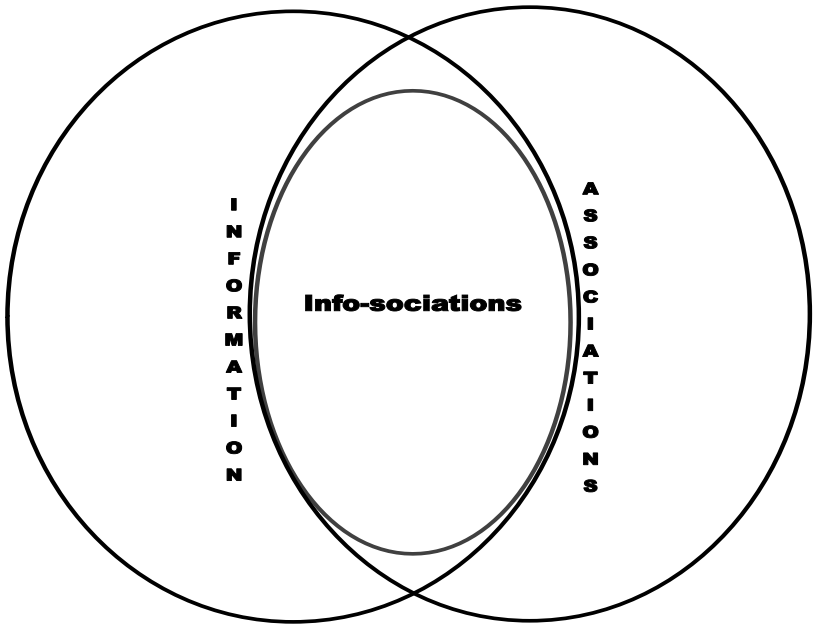

Figure 1.1: **ICT associations (info-sociations)—the conceptual co-evolution of contemporary information communication technologies (ICTs) and civic associations.** The concept is inclusive of multi-modal ICT uses of multiple tools or platforms employed in a multiplexed and / or multiscalar manner (Author).

Civic associations employing social media for public deliberations, publicity and activism; the construction of networked alliances; developing blogs with links to grounded actions about environmental issues; generating activist 'email blasts' or digital 'flashmobs' for virtual mobilization of grounded publics; or developing geographic information system (GIS) online maps that identify spatial 'eco-hot spots'—these types of examples (further discussed in the empirical portion of this study) illustrate varied types of 'info-sociational practices.'

The complex cross-cutting changes occurring in civic associations as they employ ICTs, are not simply linear cause-effect impacts; but rather are connected to the uses of multimodal sets of ICT tools; tied to multiplexed (or blended) on and offline uses of ICTs; and embed multi-scalar spatial effects of ICTs practices interactional with publics. The term 'multimodal', as it is used ir

[19] *Praxis* represents the idea of putting theory, knowledge into tangible actions (or activism). For example, Day and Schuler (2004: 14), in their work which is focused on ICT-linked community practices distinguish between praxis and theory. Related to one of the key themes in this investigation, King (2006: 180) suggests that, "civic environmentalism intentionally incorporates the notion of praxis: the conjoining of social and political ideas with new social practices and technologies."

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this study, refers to uses of different uses or modes of ICT tools or platforms;[20] while 'multiplexing' refers to both virtual and physical or blended ICT practices (that is physical and / or virtual actions).[21] 'Multiscalar' refers to practices occurring at local, regional or global scales of reach or influence.[22] Multimodal, multiplexing and multiscalar are three characteristics of civic associational ICT uses which underline the need for an integrated info-sociational analytical approach.

Therefore info-sociations—as will be discussed further in Chapter Three—does not simply refer to singular uses of ICT tools by civic groups; nor does it equate to the employment of traditional mass media (print, radio, television) by these groups; nor to the singular or discrete uses of ICTs by individual citizens; and nor are info-sociational practices entirely separated from traditional civic associations; and, nor do info-sociations relate to government or business—as they are non-profit and associationally-oriented. Instead, info-sociations conceptually revolve around interconnected sets of digital transformations within and amongst civic associations—namely, organizational, participatory and spatial transformations. These transformations potentially occur in civic associations when ICTs are employed in a multimodal, as well as multiplexed and/or multiscalar manner—and they arguably shape or reconfigure local civic space. Some of these transformations have been alluded to in Castells' (2011) recent assertion that 'organizational, participatory and mobilization' activities involving users of ICT tools suggest an 'emerging civil society.' This assessment was made in the context of the intertwined physical and digital activism employed by some of the decentralized, international '*Campada*' or '*Occupy*' movements (what Castells referred to as *wikicampadas*).[23]

Understanding info-sociations, including how and why ICT-linked practices are shaping and shaped by civic associations (and civic space) therefore will represent the heart of the work in investigation. The approach that this study proposes for gauging ICT-linked effects—in and amongst civic associations; in civic space; and in relation to problems and potentialities—will be

[20] Multimodality suggests that civic associations organizationally employ multiple modes of ICT practices which are socio-technical in nature (Thrift 2004; Bach & Stark 2003, 2005; Latour 2005; Castells et al., 2007). This involves studying *actor-networking practices* and the nature of various modes of ICT uses and how these relate to traditional organizational culture, including the uses of: email, websites, BBSs, web forums, blogs, microblogs, social networking sites, mobility tools, collaborative publishing, multi-media syndication, podcasts and so forth.

[21] Multiplexing suggests that ICT practices are intertwined in civic associations via *socio-technical* interfacing (Graham & Marvin 2001; Bach & Stark 2005) and involves the *blending of physical* and *virtual* forms of actions and activism (Pickerill 2003; Lai 2004b; Ip 2011); the inter-mixing of longstanding face-to-face networks with novel digital networks; digital publicity and linkages between social media and traditional media (Yang & Calhoun 2007: Ip 2011; Zheng 2011). Multiplexing can involve politicized power points of contestation both inside and outside of civic organizations (Sassen 2004; Ip 2011). Multiplexing also suggests possible digitally-driven reconfigurations and reinterpretations (or contestations) due to ICT-linked practices and a reformatting of longstanding concepts such as: *community* (Evans 2005); *social capital* (Dhakal 2011); *citizenship* (Galusky 2003); *environmental activism* (Horton 2004) and *sustainability* (Marres 2011).

[22] Multiscalarity emphasizes the importance of linking the *local to the global* and the *micro to the macro* (and the converse) in civic associationa ICT practices. Multiscalarity suggests an analytics that situates 'grounded' associational physical and digital micro-practices in relation to their city-specific (macro) governance or polity contexts and seeks to understand their spatial consequences—including the role of blended g/local campaigns and local, regional or global digital alliances, networking and cyberactivism. Multiscalar strategies also imply that broader, critical perspectives remain essential, not only for understanding ICT praxis, but for understanding digital and socio-economic asymmetries within and between global informational cities and amongst the civic associations located within them (Graham & Marvin 2001; Castells 1996).

[23] In addition to Castells' (2011) assessment, this type of analytical approach highlights the need for an additional focus on 'spatially' transformative ICT-linked practices. This investigation's info-sociational framework incorporates a spatial element in addition to its focus on ICT-linked organizational and participatory transformations.

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further elaborated in Chapter Three of this study, in the form of an 'info-sociational model.' But before that discussion the remainder of this Chapter identifies a set of key research questions and propositions which will serve to sharpen the focus of the investigation.

1.3 Problematization: three key research questions

The key concepts described above—particularly the discussion on info-sociations—anticipate the need for a coherent line of inquiry for further investigating the co-evolution of both civic environmental groups *and* ICTs. ICTs, civic (environmental) associations and tiger cities represent three key variables which are 'perpetually becoming' or permanently 'in flux'; and these dynamics can present a serious research challenge. Focusing upon a set of interrelated research questions suggests a possible set of directions for better understanding the interplay between civic associations, ICTs and civic space, including associated problems and potentialities with ICT practices. The three interconnected research questions which will help to drive this investigation are as follows:

(1) How and why are civic environmental associations employing ICTs in their practices?

(2) In what ways are civic associations' ICT-linked practices transforming urban civic space in the tiger cities?

(3) What problems and potentialities arise from civic associational ICT praxis?

The first research question listed above has been designed to yield important descriptive and comparative data on the motivations ('the why') and approaches linked to non-profit associational uses of ICT tools and platforms ('the how'). The first question—which relates to the discussion above on info-sociations—also suggests a need for gaining a grounded understanding of routine ICT-linked practices amongst civic environmental associations in Hong Kong, Singapore and Taipei. The second research question in some respects is more complex since it is both contingent and conditional. This question is premised on the contingency that ICT-linked practices may be transforming or even possibly transformational and it relates to those city-specific settings where civic space (reconfigurations) may be recognizable and arguably, most tangible.[24] The third research question rhetorically suggests the need for both critiques of ICTs (by understanding their sometimes problematic aspects) and for identifying hope, possibilities or potentialities in their usage.

Overall these three questions therefore seek to examine, first and foremost, civic associational ICT practices; but in conjunction with that, their civic space contexts; as well as their critical

[24] Penny Gurstein's (2007) work on digital civil society draws John Friedmann's notion of the politics of social transformation' (1998) in urban planning theory. Gurstein's focus on digital public space(s) suggests that ICTs can certainly serve as new potential venues or platforms for engaging in transformative participatory politics (2007: 92).

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contexts. These research questions have some relationship to Bijker's (1995: 273) work on developing, "a theory of socio-technical change," where he suggests that "how questions" are linked to (empirical) narratives, whilst "why questions" are related to models and theory construction. Another socio-technical reference to how and why questions comes from Bruno Latour, who in describing elements of actor-network theory (ANT), suggests that, "actors know what they do and we have to learn from them not only what they do, but how and why they do it" (Latour 1999, cited in Verbeek 2005: 151).

In addition, Moore's (2007: 20) insights on grounded case studies—involving comparisons of the technological 'conversion' to urban sustainability in three cities—suggest that: "if we want to understand *how and why* particular societies make the kind of technological choices they do, we need to understand the competing stories that are employed by local interpretive communities" [emphasis added]. This also highlights the importance of understanding the local civic space storylines in each of the cities where civic associations are situated—as suggested in the second research question listed above. Further, Pickerill's (2003: 178) research on green cyberactivism also warns that techno-centric forms of analysis: "tends to illuminate the *how* rather than the *why* of social movement operations" (Ibid.)[emphasis hers]. This partially explains why case studies will remain a challenging approach for attempting to map and represent the fluid and dynamic nature of socio-technical change.[25] And it also underscores the importance of not only the 'how and why' component of the first research question, but the necessity for understanding the dual critical and hopeful aspects of civic associational ICT-linked praxis—as suggested in the third research question.

1.4 Three theoretical propositions for an info-sociational investigation

One means of bridging the three research questions above to a comparative empirical framework (i.e. described as the 'info-sociational model' in Chapter Three) is to construct an ensemble of theoretical propositions. These types of investigative propositions can further assist in systematically framing comparisons of civic associational case studies within and between cities. Seen in this light, these theoretical propositions (and the info-sociational model which they will underpin) are akin to a set of 'trail markers' on the investigative path which can be cross-referenced throughout the course of the study. Each of the three theoretical propositions identified below has therefore been designed to embed a succinct and distinct research agenda which supports the empirical and theory-building work necessary for answering the troika of research questions stated above.

The first theoretical proposition relates to civic associational actor-networks *in* the city and in relation to civic space—and this is tied to the second research question above. The second proposition inquires about the intersection of ICTs and civic associations; and it proposes an 'info-sociational' approach for studying ICT-mediated practices within and amongst civic groups

[25] In this respect Yin (2003: 6-9, 22) makes reference to the importance of 'how' and 'why' or exploratory questions in case study methodologies. "Such questions," Yin suggests (Ibid.,6),"deal with operational links needing to be traced over time, rather than mere frequencies or incidence." In relation to planning theory and methodology, Bent Flyvbjerg (2004: 298) suggests that 'how questions' focus on doing narrative and, "the dynamics of practice," whereas 'why questions' are "more structural" (Ibid.).

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(this is tied to the first research question identified above). The third proposition seeks to understand both the problems and potentialities linked to the ICT practices of civic associations—and this is linked to the third research question identified above.

Notably the emphasis amongst these propositions is intentionally uneven in that the second proposition—focusing on the 'how and why' research question—will be the *key focus for this investigation.* This approach therefore prioritizes its focus on understanding civic associational ICT-linked transformations in organizational, participatory and spatial practices. The 'civic space context' (proposition one) and 'problems and potentialities' (proposition three) are therefore designed to 'sandwich' the core focus on civic associational actor-networks and their ICT-linked practices (proposition two).

1.4.1 First proposition: info-sociations and civic space

The discussion above has posited that the digital actions and activism of civic environmental associations can provide new perspectives on the relations between 'knowledge, power and space' (Soja 1996). How civic environmentalists are employing ICTs in their daily practices arguably can also provide a window on changing civic participation and civic spaces (including digital or cyberspaces) in the tiger cities (Douglass, Ho and Ooi 2008). Although the 'digital city' and 'network city' phenomenon discussed above (following Castells 1996; Laguerre 2005) partially shapes the civic space storyline and a provides a backdrop or setting for understanding associational life, environmental and informatics issues (as Chapter Four will discuss further), this is not the investigation's core focus as was previously noted. Primarily the proposition below seeks to develop a basic context for better understanding the changing nature of civic space in (and amongst) the three tiger cities and in turn the settings for civic environmental associations' ICT-linked practices.

Theoretical Proposition 1.
Info-sociations are shaped by and shaping of civic space.
This First Proposition posits that info-sociational practices are shaped by and shaping of their *city-specific civic space context.* This suggests the importance of describing city-specific local civic space context (i.e. *civic space storylines)* in order to better understand civic associational ICT praxis. Mapping the civic space context—including civic associational, environmental and informatics dimensions—will assist in identifying some of the key macro factors shaping civic associational practices. Along with the civic space storylines, the actual cases of civic associations, will require further elaboration in order to empirically test this First Proposition that info-sociations are shaped by and shaping of civic space.

1.4.2 Second proposition: info-sociations and civic associational practices

The previous discussion on info-sociations identified three cross-cutting issues which suggest a need to design an info-sociational analytics that helps in understanding issues of *multimodality, multiplexing and multiscalarity* when comparing the ICT-linked practices in civic associations. By

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understanding how ICTs are being 'translated'—as an actor-network approach suggests—via local civic environmental group's values, missions, affinities and mediated practices, we might better understand the co-evolution of *civic associations* and the *technological* (ICTs). In this second proposition, which focuses upon civic associational-centric transformations, three ICT-linked practices in civic associations are identified the focal points for understanding info-sociations.

Theoretical Proposition 2.
Info-sociations are shaped by and shaping of organizational, participatory and spatial transformational practices in civic associations.
This Second Proposition claims that info-sociations feature three cross-cutting organizational, participatory and spatial transformational practices linked to ICT uses. These interconnected practices arguably occur when civic associations variably shape and are themselves shaped by ICT-linked uses in the following three respects:

- **Organizational transformations** consisting of multimodal ICT-practices, particularly related to issues of knowledge in civic associations;
- **Participatory transformations** involving multiplexed ICT-practices especially related to issues of power in civic associations;
- **Spatial transformations** featuring multiscalar ICT-practices especially related to spatial issues in civic associations.

An analysis of the ICT-linked practices of civic associations needs to employ an integrated and cross-cutting approach in order to better identify questions of knowledge, power and space. In this respect, actual cases of civic associations—in this study, six cases of environmental associations in Hong Kong, Singapore and Taipei—will need to be reviewed in order to empirically test the proposition that info-sociations relate to three cross-cutting (organizational-participatory-spatial) transformations in ICT-linked practices.

1.4.3 Third proposition: info-sociations—problems and potentialities

It is also worth restating that some environmentalists have expressed skepticism about the transformative possibilities of ICTs and indeed may, on the whole, question their merits or necessity. Such techno-critiques are not only about commercial or consumptive impacts, or possible threats to emergent civil-cyber society—such as forms of state-corporate surveillance—they also express concerns that ICT saturation or over-dependencies can disconnect people from their natural environs *and* from their civic responsibilities as active citizens or environmentalists (see: Shutkin 2000: 241; Burt & Taylor 2003; 120-121; Pickerill 2003: 36-57). Such concerns partially drive the need to investigate how contemporary forms of civic environmentalism interrelate to ICTs, particularly in the three tiger cities. Just as ICT practices can enable hopeful transformative and transformational potential—whether through organizational capacity building; mobilizing participatory publics; or traversing geographic space—they can also be employed by civic environmentalists in realizing their ideals or ideas for renewing or restoring urban spaces and ecologies.

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Theoretical Proposition 3.

Info-sociations are potentially seeding civic cyber(spaces) of hope.

This Third Proposition contends that informational practices can potentially seed 'civic-cyberspaces of hope'. This suggests that info-sociations are *potentially* extending or reconfiguring the theoretical civic spaces (i.e. the public [cyber]sphere) available to a range of associations. Identifying and comparing civic-cyberspaces of hope can further explain and build theory about *problems and potentialities* in civic associations employing ICTs in their day-to-day practices, including identifying critiques and possibilities of ICT-linked practices. Actual cases of civic associations—operating in Hong Kong, Singapore and Taipei—require further investigation in order to empirically test the proposition that info-sociational practices are potentially seeding civic cyberspaces of hope.

The three propositions listed above foreshadow an integrated analysis of info-sociations—from critical or meta questions about civic-cyberspaces of hope ; to macro questions about transformations of city-specific civic space; and crucially to questions about transformative micro-practices inside civic associations. The propositions flagged above also highlights how an info-sociational analysis represents a distinct approach for studying ICT praxis in civic environmental associations. Each of these propositions will be further formalized in Chapter Three in conjunction with the full elaboration of the info-sociational model developed especially for this investigation.

1.5 A map for the investigation of info-sociations

As suggested in the propositions thus far an info-sociational approach involves primarily examining ICT-linked organizational, participatory and spatial transformations. This approach also, however, suggests that such digital practices are shaped by (and shaping of) civic space; and that this praxis involves both problems and potentialities. Rather than analyzing ICT-linked aspects of civic environmentalism inside 'networked' cities—that is treating local civic associations as being entirely dependent upon larger external structural forces—the approach employed in this study will treat civic associations as actor-networks in the city which employ multimodal, multiplexed and multiscalar ICT practices. An info-sociational approach also takes an interest in understanding how knowledge, power and space are being reconfigured both inside civic associations and in city-specific civic space.

The remainder of this study will link the research questions and propositions to an investigative pathway. In Chapter Two, the investigation's research methodology will be outlined. The case study research strategy will be linked to the underlying need for a theory-frame, or conceptual model for making sense of a large amount of empirical data. In response to this need for a theory frame, the development of the info-sociational model will be the focus of Chapter Three The third Chapter will draw from a set of interdisciplinary research literature in order to devise an 'info-sociational model'—whose components subsequently serves as a 'working approach' for assessing and comparing the ICT-linked practices amongst civic environmental associations.

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Chapter Four will provide a brief empirical sketch of the changing nature of 'civic space'—both grounded and virtual—in Hong Kong, Singapore and Taipei. Some of the issues raised in that fourth Chapter will also be linked to the individual case study narratives which are respectively located in: Chapter Five (with the Hong Kong cases of Designing Hong Kong and The Conservancy Association); Chapter Six (with the Singapore cases of Green Drinks Singapore and Nature Society [Singapore]); and Chapter Seven (with the Taipei cases of Taiwan Environmental Information Association and Organization of Urban REs). Each of these six case-pair narratives will describe the compelling stories of six unique civic environmental associations—their projects, memberships, directorships and activisms; as well as how and why each group have been employing ICTs in their practices. The info-sociational model will be utilized in those three empirical Chapters as a narrative structuring frame for analyzing and comparing ICT-linked organizational-participatory-spatial practices. In turn the empirical work from Chapters Four to Seven will also shape the overall findings and analysis found in Chapter Eight which draws from paired and cross case comparisons to revisit the three Theoretical Propositions identified in this Chapter. Finally, Chapter Nine examines both the practical and idealistic implications stemming from the investigative findings and related to the use of an info-sociational approach for theory-building about civic-cyber associations.

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Chapter Two. Methodology: bridging theory and *praxis*

2.1 Introduction: the research journey

> *"No single strategy of comparative cases—either the criteria of selection or the somewhat artifactual conclusions that can be drawn—is incorrect."*
> —Janet Abu-Lughod, (2007) 'The Challenge of Comparative Case Studies,' *City,* 11(3).

The key research questions identified in the previous Chapter were formulated for this exploratory study of civic-cyber practices in the three tiger cities of Hong Kong, Singapore and Taipei. But what was the rationale behind this choice of research settings and particularly the six civic environmental groups as sites for the case studies? And what was the logic behind employing a 'case study' approach as a key methodological strategy? Further, how have the author's own biases (and experiences) shaped this multi-year investigation? While social science methodology involves the practices and choices related to data collection and systematic procedures—it also involves responding to serendipity, contingency, problems, surprises and researcher reflexivity. These are some of the issues discussed in this Chapter's review of the systematic methods employed in this tri-city investigation—including the underlying methodological philosophy.

Before embarking on an elaboration of the methodological procedures, the story of the foundations for this study—and ultimately the choice of the city settings and the case study sites—need to be briefly discussed. Part of this 'research story' began with the author's own journey to Taiwan in 2003 and with subsequent weekend visits to face-to-face informal environmental discussions during 2005-06 at the former office of the Green Formosa Front (a civic environmental group) based in Taipei. In many ways this face-to-face discussion group was akin to what is referred throughout this study as a green 'issue network' (following Marres's work [2006, 2010]) in that it involved a group of local and expatriate residents in discussions and networking about environmental issues in Taipei, Taiwan and beyond. In other ways these group meetings—which also witnessed a coordinating member attempt to augment the physical meetings with a virtual discussion group (a Yahoo e-discussion group)—might also be understood as a manifestation of the 'green public sphere' (following Yang and Calhoun's work [2007]), in that these face-to-face and online discussions served as a convivial space for exchanging green ideas and ideals. These meetings planted the initial curiosity in the author's mind about the nature of the work of civic environmentalists not only in Taipei, but also in other Asian cities.

After relocating to Hong Kong in 2007, the author's interest in urban sustainability and the role of civic associations (particularly environmental non-governmental organizations [NGOs]) was formalized in a research proposal to the University of Hong Kong for the work that underpins this investigation (Sadoway 2008). Including Hong Kong as a comparative setting (to Taipei) for examining the work of local environmental groups seemed like a promising initial research endeavor given the diversity of civic activities related to urban sustainability in both cities. In part then, the initial idea of a comparative study was driven by experiences with civic

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environmental associations gained while living in Taipei; and in part by the research opportunities which arose later after relocating to Hong Kong.

Singapore was subsequently selected as the third research setting for several reasons, including that the city: was an affluent post-industrializing tiger economy city-state like Hong Kong and Taipei; was geographically insular, yet intensely globally networked (like both Hong Kong and Taipei, historically); was within a reasonable comparative order of magnitude in terms of population size; and has featured a sizeable 'ethnic' Chinese community.[26] The author was also interested in the evolution of post-colonial or post-authoritarian civil society and primarily the changing roles that local environmentalism was playing in each of these three cities. The particular choice of Hong Kong, Singapore and Taipei as case study settings therefore arguably had both pragmatic and scholarly logic. This investigation also has aspired to build-upon current comparative scholarship on Hong Kong, Taipei and Singapore in civic environmentalism and informatics studies (as Chapters Three and Four will detail further).[27]

In the Spring of 2008 a research proposal was submitted to the University of Hong Kong with the purpose to conduct an exploratory comparative investigation of NGOs' involvement in urban sustainability issues in Hong Kong, Singapore and Taipei. Initial fieldwork in 2009 began to focus on NGOs, urban sustainability and climate change. The early fieldwork also yielded interesting discoveries about the role of ICTs in changing civic environmentalism. Eventually this initial grounded work combined with later investigations of the research literature would help to form a set of research questions and working propositions about 'info-sociations,' and working hypotheses about ICTs possible roles in the changing work (and changing the work) of civic environmental associations.

The remainder of this Chapter consists of five parts about how this multi-year, tri-city research journey unfolded, including how various research methods were employed along the way. The first part below provides a synoptic overview of the key research processes and tasks. The second describes the importance of grounded theory as a 'path-finding' research approach in the early initial stages of this investigation. The third part of the Chapter highlights how the case study approach supported an integrated research strategy. The fourth part discusses

[26] See additional socio-economic and sustainability comparisons amongst the three tigers: Vogel 1991; Rohlen 2002; Tai 2006; Yusuf & Nabeshima 2006; Ng 2007). The populations of the three cities reports populations for Hong Kong, Singapore and Taipei (Metropolitan Area) is respectively: 7.05 million; 4.99 million; 6.75 million (2010-11 statistics from City Mayors Foundation population dataset). By comparison Seoul—the other major tiger city—has a core city population reported as 11.15 million and a metropolitan area as 24.47 million. Available at: www.citymayors.com/statistics/largest-cities-mayors-1.html. Last accessed 14 May 2012.

[27] This included comparative research between the three tiger cities, either as clustered groupings of cases, or as stand-alone cases within Asiar regional or area studies (for example: Shak and Hudson 2003; Ooi 2005; Weller 2005; Tai 2006; Ng 2007). In terms of comparative case study alignment, while the three cities do have numerous differences—whether one speaks of socio-political systems, historical differences, cultural mosaics, urban environmental conditions—the three cities beside socio-economic and cultural interchange broadly also have shared influences such as: a common history as Asian 'tiger' or newly industrializing economies (Rohlen 2002); significant global capital, trade and human mobility; and consideration as 'global cities' according to a spectrum of indices (e.g. Sassen 2008: 13); Chinese cultural and customary network (inter)connections; dynamic civil society spaces in recent decades including interest in urban sustainability issues (see Chapter Four); demographically rapidly-aging or graying societies (Jones et al, 2009); a history of developmental state-led infrastructure/projects (Douglass 2006); shared relatively high-density, compact energy efficient urban forms compared with 'western' cities; emergent and increasingly post-industrial urban characteristics with a focus on high technology, education and ICTs (see Chapter Four); and experiences of de-colonialization and post-colonialism.

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attempts to systemically address validity and reliability threats. The final part of this Chapter features a brief discussion on researcher reflexivity or self-reflections on the investigation during the research journey.

Table 2.1: **Overview of key research stages & tasks in this investigation** (Author)

Research Stage	Key Research Tasks	Locations & Dates
Stage 1 **Grounded path-finding**	- initiated preliminary scoping interviews in (Taipei, Singapore); meeting and protest observations (Hong Kong) - submitted research proposal to University of Hong Kong (May 2008) - conducted an initial review of scholarly and media issues related to civic environmentalism (in the tiger cities)	- Taiwan fieldwork (Dec 2007, Jan 2008) - Singapore fieldwork (Nov-Dec 2007) - Hong Kong fieldwork (2007/2008)
Stage 2 **Fieldwork residencies**	- completed first round of interviews with civic associations (27 in Taipei;16 in Singapore;24 in Hong Kong)* - undertook a Visiting Research Fellowship at Academia Sinica (Taipei)(Jan-April 2009) - completed research residency (Singapore)(Aug-Sept 2009) - interned at Civic Exchange (Hong Kong)(Fall 2009)	- Taipei fieldwork (Feb-April 2009) - Singapore fieldwork (Aug-Sept 2009) - Hong Kong fieldwork (July 2009–March 2010)
Stage 3 **Key follow-up interviews**	- initiated second and third rounds of interviews with civic associations focused on ICTs (10 in Taipei; 9 in Singapore; 4 in Hong Kong)*	- Taipei fieldwork (Oct 2010 / Aug 2011) - Singapore fieldwork (Nov 2010 / Jul-Aug 2011) - Hong Kong fieldwork (Oct, Dec.,2010 / July 2011)
Stage 4 **Case study theory framing**	- transcribed case summaries from informant interviews - developed initial working 'info-sociational model' - designed and initiated a follow-up online survey of civic associations (linked to info-sociational model)	- follow-up online survey implemented in all three cities (121 organizations with a 22.31% response rate) -Hong Kong residency (Summer-Fall 2011)
Stage 5 **Case study development**	- selected case pairs involving six separate civic associations in the three tiger cities (DHK, CA, GDS, NSS, TEIA, OURs) - undertook coding of key informant content linked to the info-sociational model (organizational-participatory-spatial) - continued website and document reviews related to cases - wrote-up case reviews and analysis linking empirical findings to the info-sociational model components	- Hong Kong residency (Spring 2012)

* See Appendix 1 for a listing of civic associations interviewed (by city and date) during the first and subsequent rounds.

2.2 Key research tasks in this multi-year, tri-city investigation

This study's research methodology can be understood as being analogous to an exploratory journey on an interconnected network of pathways which have sought to address how and why civic environmentalists have been employing ICTs in their work in three Asian cities. This exploratory research journey has also led to the development of the info-sociational concept and model—as an analytical and theory-building approach.

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Details of each of the five activity stages of the research process, including the key research tasks and their dates and locations have been summarized in Table 2.1. This investigation's research journey was assisted by many people, organizations and institutions, including those mentioned in the acknowledgements; as well as by the authors of the numerous inspiring works of scholarly and research literature; and crucially, by the inspiring work of the many civic associational staffers, directors and leaders whose individual identities remain confidential.[28]

At the outset of this study (formally submitted in a proposal to the University of Hong Kong in May 17, 2008), this investigation's methodological choices was conceived of as needing to involve an 'adaptive approach' that would converge upon a mix of methodological choices also referred as 'research triangulation' (Sadoway 2008).[29] An adaptive approach was suggested because the study originally set out to investigate the urban sustainability related work of environmental non-profit organizations (also referred to as 'civic associations' here) situated in the tiger cities. That original research objective had been maintained and in the process tapped two interrelated methodological approaches; and a third distinct socio-technical approach:

- *Grounded theory approaches*—have been employed in this study for the inductive 'pathfinding work' that sought to develop the study's core research questions (Bryant & Charmaz 2007). This primarily occurred during the preliminary and first round semi-structured interviews with civic associations in Hong Kong, Singapore and Taipei—manifest in note and memo taking during the interviews; heuristics and conceptual development during analysis of interviews and observations; and an ongoing analysis of documents, literature and websites (also see Appendix 1);

- *Comparative case study methods*—have been employed in this study to provide a structured means for the comparative analysis of the core research questions and the subsequent development of an info-sociational model (Yin 1995; Eisenhardt 1989). This primarily has drawn upon second and third round follow-up interviews with civic associations; maintaining a daily coded or tagged database of digital news extracts from the three cities; transcribing, coding and analyzing interview data; designing and implementing an online survey questionnaire; and an ongoing document and website and ICT-mediated applied discourse analysis (also see Appendix 1).[30]

[28] This was in order to honour commitments made to the individual interviewees (on paper or by word) in accordance with the research protocols outlined by University of Hong Kong's Human Research Ethics Committee for Non-Clinical Faculties (HRECNCF) and Hong Kong Personal Privacy Ordinance.

[29] Methodological triangulation attempts to achieve credibility in inquiry and specifically refers to the mix of methods undertaken to analyze a given phenomenon (Moore 2007: 234-35).

[30] Broadly speaking applied discourse analysis approaches were employed in literature analyses, media content analysis, and online website or social media analysis (Scollon 2008). Applied discourse approaches examine mediation and recontextualization. For example, Scollon (2008: 18, 46-49) suggests, provides a helpful means for understanding both how off and online documents are formatted, summarized and how as public discourses they 'mediate action.' Scollon's approach focuses on document analysis of written policy statements, responses in public hearings and consultations and web-based texts in relation to public environmental policy consultations. His emphasis is on the action, context and framing of public documents related to these consultations and detecting 'the main discourses circulating in the documents' (Ibid., 158) and 'documents as action,' or 'as information about action,' including how these discourses may be altered in the policy-making processes.

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- *Actor-Network Theory (ANT)*, in this study have been treated as a means of analysis and an extant theory (a sensitizing set of analytical concepts) which supports the socio-technical focus in an info-sociational approach (see: Latour 2005: 122 and discussion in Chapter Three). By treating actors as 'symmetrical' and 'actor-networks' as analytical mediums, ANT analysts examine how socio-technical artifacts (such as ICTs) are co-evolving, translated and transformed in practices (e.g. Callon 1986; Bach & Stark 2005; Czarniawska & Hernes 2005; Latour 2005; Verbeek 2005: 148-172; Bender 2010). Rather than viewing civic associational life from an *a priori* categorical, structural or dispositional lenses—an ANT approach suggests a focus on tracing and translating the (de)stabilizing relations between various actors and the networks they form. This approach can provide insights about the workings of people, organizations, technologies and power (i.e. a particular actor-network) by examining the relations between civic environmentalists and ICTs including 'mediators' such as staffers, volunteers, directors, movement activists, government civil servants, the researcher, and so forth.[31]

On the surface such the ANT approach described above potentially appears to be *apolitical,* however, it can reveal the politics *in the situation and in the actor-networks itself,*[32] rather than in response primarily to structural factors, or static frameworks.[33] "Traditional theories take power to be the cause of events and actions, whereas ANT takes it to be the effect or result," suggests Czarniawska and Hernes (2005:9).[34] For example, Bijker's (1995) work examines 'artifacts and facts' in what he calls, "a new unit of analysis," namely, the "integration of the technical and social" (Ibid., 288). Constructivist theory-frames do not view technologies as neutral artifacts, but rather as enmeshed in human processes and the 'politics of socio-technical change' (Pfaffenberger 1992: 282, 269; Feenberg & Bakardjieva 2004: 14; Verbeek 2005: 11; Moore 2007: 3).[35] Focusing on the construction, the contestations, the shaping, the steering, or the outcomes—of a given technology—involves understanding, "*what it becomes*

[31] Latour (2005) distinguishes between traditional social theory and ANTs use of *mediators* that are acting and networking, "As soon as actors are treated not as intermediaries but as mediators, they render the movement of the social visible to the reader. Thus, through many textual inventions, the social may become again a circulating entity that is no longer composed of the stale assemblage of what passed earlier as being part of society" (Ibid., 128). He adds: "If the social is a trace, then it can be *ret*raced; if it's an assembly then it can be *re*assembled" (Ibid, 128).

[32] Here It is worth noting critiques of ANT (e.g. Graham 2005: 70; Veerbeek 2005: 161-172), including Holifield's (2009: 638) suggestion that, "ANT has developed a reputation among critical scholars as a status quo approach that ignores inequalities, differences, and power relations; focuses its attention not on marginalized communities but on scientists and bureaucrats; produces only descriptions rather than powerful theoretical explanations; and remains stubbornly allergic to critique."

[33] Latour (2005) for instance suggests that: "a good ANT account is a narrative or a description or a proposition where all the actors *do something* and don't just sit there. Instead of simply transporting effects without transforming them, each of the points in the text may become a bifurcation, an event, or the origin of a new translation" (Ibid., 128).

[34] In this respect actor-network theory—at least in Latour's descriptions (2005)—arguably has similarities to Flyvbjerg's (2004) work on power and rationality or what he terms *phronetic* planning research where power can be understood: "as a dense net of omnipresent relations" and "as ultra-dynamic" (Ibid., 293). Drawing from Foucault's work, Flyvbjerg suggests that: "power is studied with a point of departure in small questions, 'flat and empirical', not only, nor even primarily, with a point of departure in 'big questions.' Careful analysis of power dynamics of specific practices is a core concern (Ibid.)."

[35] For example, Bijker's (1995) work suggests the importance of contingency, uncertainty and indeterminacy in socio-technical studies: "technology is socially shaped and society is technically shaped, but there need not always be explicit 'causal' links between specific artifacts and relevant social groups" (Ibid., 288).

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as a result of the different possible uses that are imagined for it" (Feenberg & Bakardjieva 2004: 14, emphasis theirs). In this investigation actor-network theory is employed to assist in tracing networks (or associations); examining the processes of how and why actor-networks are formed and being translated; exploring the roles of 'obligatory passage points' (critical gatekeepers) in associations; identifying co-evolutionary socio-technical practices; and examining the shift from information provision to knowledge networking.

While the ANT-related approach will be further discussed in Chapter Three, the next two sections respectively elaborate on the five stages of research including on how 'Grounded Theory' and 'Case Study Theory' approaches have been integrally interconnected to this investigation's research journey.

2.3 Grounded theory: keying-in on civic environmentalism and ICTs

Developed in the 1960s by sociologist-ethnographers Barney Glaser and Anselm Strauss grounded theory or methods have been suited to calls for a contra approach to positivist social science methods for understanding human phenomenon. The approach involves structuring context-specific findings and constructing theory from grounded data (including interviews and observations) as this investigation has undertaken. One definition of grounded theory is that it represents:

> *"A method of conducting qualitative research that focuses on creating conceptual frameworks or theories through building inductive analysis from the data. Hence, the analytic categories are directly 'grounded' in the data. The method favors analysis over description, fresh categories over preconceived ideas and extant theories, and systematically focused sequential data collection over large initial samples. This method is distinguished from others since it involves the researcher in data analysis while collecting data—we use this data analysis to inform and shape further data collection. Thus, the sharp distinction between data collection and analysis phases of traditional research is intentionally blurred in grounded theory studies"* (Bryant & Charmaz 2007: 608).

By generating theory *in situ* and in relation to emergent site data, Glaser and Strauss appeared to have struck a chord with social science researchers attentive to alternative representations of social reality in their respective disciplinary fields.[36] An exemplar of a grounded theory application in urban planning research can be found in the work of planning theorist Steven Moore (2007) and his comparative case studies of urban sustainability challenges in Austin, Curitiba and Frankfurt.

[36] Grounded Theory as a research methodology, as claimed by Bryant and Charmaz (2007: 1), was at the time of their writing: "the most widely used and popular qualitative research method across a wide range of disciplines and subject areas."

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Initially, in 2007-2008 three separate fieldtrips to Taipei and Singapore (two in Taipei; and one in Singapore) enabled a preliminary scoping of ideas and hypothesis generation via interviews and library work. In-person contacts, including short interviews, were initially undertaken with academics and individuals working in civic associations during these scoping visits.[37] Subsequently in this study separate 'residencies' in Taipei (Visiting Research Fellow Academia Sinica and fieldwork residency January – April, 2009) and Singapore (fieldwork residency, August-September 2009) served as platforms for initially undertaking grounded fieldwork through local in person interviews and discourse/content analysis at local libraries (or via Internet research).[38] These residencies also served as contextual 'windows on the worlds' of civic associations as social and environmental change organizations; as well as sites for gathering data and developing *in situ* conceptual heuristics based on the data gathered from interviews and observations. [39]

Much of the early 'pathfinding' research was open-ended at the beginning of the process (Stages 1 and 2 identified in Table 2.1) with development of conceptual heuristics and working theories ongoing during these stages. Thus, the early stages of research represented the 'grounded theorizing stage' or 'inductive phase' of the investigation, occurring between 2007 and 2009. The first 'pilot' round of fieldwork, in 2009, involved meeting with a diverse group of civic associational members and other key informants such as scholars and government officials (in total 67 formal interviews at this stage, Appendix 1).[40] In addition, ongoing document collection supported the first round of research and primarily consisted of gathering: organizational pamphlets and documents; government policy papers; online materials and copies of secondary materials.[41]

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[37] These included in person, non-confidential meetings and interviews in Singapore and Taipei with: Professor Victor Savage (Geography, NUS), Professor Harvey Neo (Geography, NUS), Professor Daniel Goh (Sociology, NUS), Researcher Gillian Goh (Singapore Institute of Policy Studies), Professor Giok Ling Ooi (Nanyang Technical University) (telephone) , [Singapore]; Professor Bruce Tan (Geography, National Taiwan Normal University), Professor Ching-Ping Tang (Political Science, National Chengchi University), Professor Wang (Urban Planning, National Taiwan University), Professor Thomas Liou (Urban Planning, Feng Chia University), Professor Michael Hsiao (Sociology, Academia Sinica/National Taiwan University) and Professor Li-Wei Liou (Feng Chia University).

[38] Systemic data collection during the fieldwork residencies involved: taking research memos in a series of notebooks; primary and secondary document analysis in research libraries and civic association offices; unstructured and semi-structured and digitally recorded interviews; observations of civic association meetings and events; and attendance at relevant conferences related to the work of civic associations in Taipei and Singapore (away from the researcher's home in Hong Kong).

[39] The interviews were conducted in accordance with the protocol outlined in multiple proposals submitted (and approved) by the University of Hong Kong's Human Research Ethics Committee for Non-Clinical Faculties (HRECNCF) (form 296/1005 and amended). These proposals outlined: research proposals, risk assessments, data collection procedures, and consent procedures as well as progress reports and amendments to research procedures. All relevant documents are on file with the HRECNCF at the University of Hong Kong.

[40] The first round of formal interviews with civic associations was undertaken in 2009-10. This first round of digitally recorded interview consisted of: twenty seven interviews in Taipei (January to May 2009); sixteen interviews in Singapore (August and September 2009); an twenty four interviews in Hong Kong (July 2009 to March 2010) [see Appendix 1 for details].

[41] These materials were compiled at Academia Sinica library collections, Singapore National Library system and HKALL Hong Kong Universit Library System, as well as non-profit associational libraries or document collections. Digital images were also taken by the author of civi associational offices, civil society activities (such as demonstrations) and protests, urban sustainability innovations, as well as particular sites o public space or environmental issues in the three cities. In conjunction with the fieldwork, a basic set of research notes and memos wa retained in order to identify theoretical insights, situational mapping/heuristics, and reflections on methodological issues during the initia stages of fieldwork.

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During the initial rounds of interviews the researcher attempted to maintain an 'open-ended' interview format—focusing on the civic associations background (history, mission, activities) and key internal issues; relations with other civil society and other external relations (with other NGOs, NGO networks/coalitions; and/or local international environmental movements); urban sustainability issues and how the organization's practices were related; and how the organization was specifically involved in climate change issues (along with questions that the NGOs had for other civic associations).[42] Without this initial first round of interviews a wide ranging understanding of local civic associational life and urban sustainability issues and city-specific context would not have been possible—nor would the identification of the significance of ICTs role in changing civic associational practices have been identified. Therefore this semi-structured interview approach provided a crucial convivial space for an outsider to ask 'naïve' and 'tangential' questions (or probes).[43]

A significant change in the research strategy implementation occurred (in August 2010). At this time during the investigation of the practices of civic associations in the three tiger cities, the researcher became principally interested in focusing on *civic associations' ICT practices* in relation to their urban sustainability activities. This change related back to the fieldwork the previous year when one of the sets of issues that stood-out as particularly intriguing (and sometimes as puzzling) during the interviews in 2009-10 *was how civic associations were actually employing information communication technologies (ICTs)—everything from email to the Internet and social media—in their missions, practices and activism.*

Interviews had not only revealed the importance of ICTs in relation to routine internal organizational or administrative functions; interesting ICT-linked experiments and applications were also noted. In particular, two early interviews in Taipei—with the civic groups TEIA and OURs, during the Spring of 2009—identified how ICTs were being employed not only in relation to climate change issues, but also in relation to a myriad of other land use and environmental planning issues (Sadoway 2009a). For example, the author's interim Taipei research report from 2009 identified "the rise of information NGOs," and suggested that:

> *"Examples were evident in the fieldwork of a range of NGO practices using information communication technologies (ICTs) in Taipei—from centralizing/informational hubs to decentralized community eco-monitoring networks. […] This area is rich for further discussion in the dissertation"* (Ibid. 17).

Subsequently, in preparing a conference presentation about civic associations and their ICT practices (UPE9, Guangzhou) the decision was made—in August 2010—to shift from a focus on

[42] Interviews were arranged in advance by email and then (if necessary) via telephone with organizational representatives. A generic email introduction and telephone follow-ups along with subsequent emailing of voluntary participant agreements was sent to interviewees (Appendix 2). Digitally recorded interview sessions were typically held inside the civic associational offices or restaurants/cafes and lasting approximately 1.5 to 2.5 hours in length. Several interviews in Taipei required the use of a paid Mandarin Chinese-English translator. In addition to digital recordings, detailed hand-written interview notes were recorded in journals by the author, including debriefing discussions with the translator.

[43] Digital recordings from the first round (and for all subsequent rounds) of interviews were imported into a qualitative data analysis software package (Atlas.ti) for comparative analysis. This very large volume of material (90 interviews), while stored in a database, proved to eventually be selectively reviewed, rather than elaborately coded or systemically deconstructed. With the eventual research focus on 6 case study pairs, the subsequent or additional rounds of interviews were to become the core analytical material.

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civic environmental practices and climate change, to instead examining how and why civic groups have been employing ICTs in their work.[44]

To review, the initial 'grounded' approach enabled the author to engage in wide-ranging conversations (semi-structured interviews) with civic associations; to generate working hypotheses geared to a focus on ICT practices in civic associations; and to explore an array of literatures related to this study's settings, sites and the themes of civic environmentalism and ICT praxis. The multiyear investigative effort has retained the initial interest in understanding the ideals, ideas and practices of civic environmentalists in the three tiger cities. How this pathfinding or grounded approach was further developed through the use of case study research strategies will be the focus of the next section.

2.4 Case studies in practice: a research strategy and a method

Overall, the case study approach—influenced by the works of Yin 1994; Stake 1995; Czarniawska 1998; George & Bennett 2005—and related theorizing used in this investigation employed an 'inductive-deductive-inductive' approach (e.g. Eisenhardt 1989; Lipschutz 1996: 8). How this was implemented in relation to the previously described grounded 'pathfinding' work will be the focus of the discussion below.

By 2009-10 the initially open-ended focus on urban sustainability and NGOs/civic associations was to shift from examining how civic associations were addressing or positing their organizations in relation to climate change issues, t*o how and why they were employing ICTs in their practices.* Thus, while grounded theory essentially served as a 'pathfinding approach' in the early rounds of fieldwork (Stages 1 and 2), addressing the 'how and why' research questions began to occur during subsequent rounds of fieldwork.[45] The development of case studies essentially narrowed the research focus onto a smaller set of studies of coupled associations in the three tiger city settings—rather than examining an unwieldy number of civic environmental associations. In particular, during the second and third rounds of interviews the author sought to gain a better idea of the promises and pitfalls of civic associational ICT practices from amongst six civic environmental groups.[46]

[44] Since the initial first round of interviews was open ended (and focused on broad aspects of the associations rather than climate change in depth), the subsequent shift in focus to examine civic associations and ICT practices (which was explained to second round interviewees) was not overly disruptive and was also communicated to interviewees.

[45] At that time the two broadly defined 'research goals' driving the study noted in the research proposal (Sadoway 2008), included: (1) To adaptively use mixed methods to study how NGO practices shape discourses & definitions of urban sustainability in Pacific Asia; (2) To undertake case studies of the practices of NGOs whose focus includes urban sustainability in Hong Kong, Taipei and Singapore in order to build inter-urban comparative theoretical framework(s).

[46] Commencing in the Fall of 2010, this initially involved 9 case study sites (3 civic associations in each city) and later was reduced to 6 case studies (2 in each city) in order to focus on the salient distinctions between cases (selected in accordance with the three criteria noted earlier in this Chapter).

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In this investigation the case study approach has been treated as an overall research method as well as a research strategy. On this distinction, case study methodologist Yin (1994: 13) suggests that:

> *"the case study as a research strategy comprises an all encompassing method—with the logic of design incorporating specific approaches to data collection and to data analysis. In this sense, the case study is not either a data collection tactic or merely a design feature alone but a comprehensive research strategy."*

Yin also suggests that a case study strategy can be suitable for 'exploratory research' (Ibid., 12) including for examining 'how and why' type of research questions. These two types of questions certainly relate to this investigation's goals and research questions as outlined in Chapter One which highlighted the need for exploratory studies of the linkages between civic associations and ICTs, particularly in urban Asia. In addition, case studies support the goal of understanding the transformations in civic associational practices linked to ICT uses and in the context of changing civic-cyberspace. In this respect, Yin notably defines the case study as being an empirical inquiry that:

> *"Investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident"* (Ibid., 13).

Arguably, the relationships between the socio-technical phenomena under investigation in this study—namely, the ICT-linked practices of tiger city civic environmental associations—requires in-depth analysis if they are to be better understood. Indeed, as will be pointed out in Chapter Three, the info-sociational concept and model were devised for this type of investigation as an approach for better *analyzing* and *theorizing* about ICT practices in civic associations.

The heart of this investigation draws upon coupled cases of civic associations in three settings. The six cases—in this study's approach—when analyzed in relation to the info-sociational model can be comparatively examined.[47] In this respect George and Bennett's (2005: 18) identification of case studies as including, "both within-case analysis of single cases and comparisons of a small number of cases," opts for a mixture of coupled and cross-case comparisons.

Furthermore, one of the key purposes of a multiple case study approach, Yin (1994: 32) contends, is to aim for analytical generalization and theoretical richness—as this study will attempt when linking of empirical case studies to the info-sociational model. Such an approach also draws inspiration from a cross-Asian investigation of cases of ICT-linked activism (not directly focused on civic environmentalism) where Qiu (2011: 6) suggests that a comparative case approach can enable an analysis of: "the singularity of each society and key incidents of

[47] In all the interviews voice data were digitally recorded and stored (using similar protocol as noted earlier above); and after the second and third round interviews a set of 'summary' transcript notes were developed and subsequently coded or tagged and mined in accord with the info-sociational model's three key 'organizational-participatory-spatial' categories.

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Table 2.2: **Overview of the civic environmentalist case study units of analysis** (Author).

Association / Age	Mission / Key focus	Key ICT-linked activities
Designing Hong Kong (DHK) [founded 2003]	- urban planning, design and conservation issues monitoring & public affairs	-website with key project links -e-newsletter & online event videos -digital letter activism on key issues
The Conservancy Association (CA) [founded 1968]	-environmental & conservation policy reform in urban and rural Hong Kong	-website, social media & project-specific websites -e-newsletter sent as an 'e-blast' -online GIS hot spot / issues map
Green Drinks Singapore (GDS) [founded 2007]	-building a face-to-face social space & networking focused on environmental issues	-blog, website, social media activities -multimodal event & social mediation -live event micro-blogging
Nature Society (Singapore) (NSS) [founded 1991]	-conservation & environmental policy monitoring and reforms	-migration to consolidated website with social media & discussion forum -piloting smart phone applications
Taiwan Environmental Information Association (TEIA) [founded 2001]	-environmental information & digital media hub along with Environment Trust initiatives	-daily e-newspaper -clearinghouse for civic environmental news -ICT support to small civic associations
Organization of Urban REs (OURs) [founded 1989]	-community-based urban planning & spatial justice monitoring & activities (including eco-city vision)	-website, blog, social media activism -experimental GIS-map (Burning Map network)

Source: Case studies in Chapters 5, 6, 7 [this study].

mobilization in it, and then compare them across space and across time, not only with each other but also with parallel developments in other world regions."

By 2010 during Stages 3 to 5 of this investigation (as noted in Table 2.1) the development of a set of case study sites was well underway. These later stages of research work involved a more fine-grained set of interview questions. For example, the second or third round semi-structured interviews were guided by an early version of the info-sociational framing theme, which systematically focused on four areas: organizational (association) uses of ICTs internally (e.g. fundraising, communications, etcetera); organizational uses of information-communication technologies externally (e.g. communicating with publics, cross-media platforms, etcetera); how ICTs may be altering spatial scale / practices of an association's work (e.g. regional or international scale shifts); whether ICTs may be prompting organizational change and remediation. In addition, the civic environmental association's future plans for ICT uses were also frequently discussed in the interviews. These later research stages also built upon the work undertaken during the grounded fieldwork stages and included reviewing the research literature in relation to civic associational ICT-linked practices.

In addition, a bilingual online survey questionnaire was developed Summer of 2011 (June-September) and distributed to civic environmental associations in the three tiger cities (see Appendix 2). A limited amount of information from these survey findings has been included in

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this study since the interview findings have been the primary focus of this investigation.[48] None the less this survey did serve as a supplementary cross-check on the overall findings and on the info-sociational model (despite the questionnaire's limited response rate and limited statistical validity).[49] The original aim of the 23 question bilingual (Traditional Chinese Script and English-language) online survey questionnaire was to triangulate the qualitative work undertaken; and to provide additional insights into the info-sociational model.[50] The survey was sent to multiple member emails in 121 distinct groups or organizations, disaggregated as: 67 civic environmental organizations in Hong Kong; 25 organizations in Singapore; and 29 organizations in Taipei. Valid responses were included from online replies received from June 16, 2011 to September 10, 2011.[51] In total 27 valid responses from distinct civic environmental associations in the three cities were received within the three month timeframe (a 22.31% response rate); and this included responses from all six of the groups portrayed in this particular study's focus upon civic environmental associations.[52]

A weakness of relying primarily upon a case study approach involved the threat of selection bias and the limitations of the case adequately (in terms of either breadth or depth) representing the characteristics of ICT practices amongst civic associations in their respective city settings. For example, the civic associations featured in the six cases herein all employed ICTs, however, civic groups that rarely or infrequently employ these technologies have not been profiled and are therefore were not 'represented' in the cluster of cases discussed in this study. To address this weakness, or validity threat, the interviews did intentionally attempt to discuss the broader context of civil society and civic space in each city, besides discussing associational-specific issues. In addition, literature on the uses of ICTs by civic associations in each city was cross-referenced; and the cross sectional survey of ICT uses by a broader grouping of civic associations (than the six case studies) was developed. The six case study couplings should

[48] In this study document the responses of three survey questions have been included in order to provide additional insights into civic environmentalists' ICT practices. Given the length of discussion and analysis in the existing six case studies in this document, the decision was made to not include the additional wider pool of results and analysis of the survey in this study because they cannot be considered as fully representative of the wider experiences (nor statistically significant) of civic environmentalists in the three city settings. None the less these data have provided a broader cross-check on the findings and potentially merits further analysis in future studies publications.

[49] In particular, three tabular extracts derived from three distinct online survey questions were included in this study in order to provide additional insights in each of the six individual case study narratives. In addition, a tabular summary of cross-sectional data (again not statistically significant), does provide some contextual and comparative background as a cross-reference for the six individual cases in relation to the larger pool of civic environmental associational actors in the three tiger city settings. The three survey question summaries (in tabular form) disaggregated by individual case, have been included (and clearly identified) in each of the six civic association cases studies found through Chapters Five through Seven; and a cross-sectional synoptic table, summarizing findings from the broader survey of civic associations in the three tiger cities is featured in Chapter Eight.

[50] The survey was distributed online (via an email letter introduction with a URL link to the online survey) to those civic environmental groups i all three cities that had been interviewed during the various rounds of face-to-face interviews. Additional surveys were provided to other civi environmental groups that had not participated in the first three rounds of interviews but which were identified either by other groups or i online research.

[51] One additional valid response was received from Singapore well outside of this timeframe (in early 2012); however, it was included in the analysis because the final data analysis of online data using the commercial software was run in April 2012.

[52] Survey responses can be disaggregated as Hong Kong 40.7% (n=11); Singapore 29.6% (n=8) and Taipei 29.6% (n=8). Amongst the valid responses were completed surveys from all six of the groups portrayed here in this study's cases of civic environmental associations (i.e. DHK, CA, GDS, NSS, TEIA, OURs).

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therefore not be understood as representing the full diversity of civic associations either within or between each city setting—but rather selective windows into the workings of civic associations and their ICT praxis.

Another weakness of relying upon interviews in case studies is that these rely primarily upon 'anecdotal evidence.' This criticism, while partially valid, does not acknowledge that building a broader corpus of evidence in exploratory research ultimately involves building upon disaggregated data components—including systemic interviews which draw upon chains of 'anecdotal' observations from multiple sources. Small scale, site-specific studies of emergent phenomenon therefore rely upon a mixture of systemic observations and anecdotal information in order to generate analysis and novel hypotheses (and theory development). Another means of addressing validity threats involved a cross-check on the data through a review of interim findings during second or third round interviews (with CA, GDS, NSS, TEAN)—when interim concepts developed in a draft paper were reviewed with the interviewees. Ultimately, although a case study approach can employ selection criteria and systemic methodological protocols, the approaches used will not necessarily yield results of the type that are easily replicable—suggesting that case methods are ultimately more of an art than a science as Stake (1995), for example, posits. While a case study approach can help to provide powerful insights into the info-sociational transformations underway amongst tiger city civic environmental groups, it can only represent limited spatio-temporal perspectives on the socio-technical transformations underway as civic associations continuously shape and are shaped by ICTs.

For this investigation the cluster of six case studies technically drew upon data and evidence from a number of key sources, including:

- the use of semi-structured interviews and meeting or event observations conducted during tri-city fieldwork and supplemented by research notes, memos and heuristics;
- related digital news compiled in the author's digital daily news database (compiled as coded/tagged extracts between 2010-2012 from daily English-language sources [*South China Morning Post* (Hong Kong), *Taipei Times, e-Taiwan News, The Online Citizen* (Singapore), *The Singapore Straits Times*];
- associational documents (pamphlets, booklets, etcetera) and visual evidence (digital images);
- extracts from three questions on the Summer 2011 survey and linked to the six cases;
- reviews of civic associational websites and other online materials; and the online surveys which have been mentioned earlier.

The overall ensemble of six associational sites (Table 2.2) were selected and developed as case studies because they arguably demonstrated a requisite variety of civic environmentalist activities and ICT-linked practices necessary for exploratory theorizing about the shift from associations *to info-sociations.* Besides their availability for interviews, the eventual selection of DHK, CA, GDS, NSS, TEIA and OURs as the core group of six case studies (or units of analysis) subsequently focused upon in this investigation (amongst the larger 'pool' of civic associations initially interviewed in the three cities [see Appendix 1]) was driven by three rationale:

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- First, each of the six cases could illustrate civic associational concerns about local natural or built environmental issues or urban livability (i.e. organizations with demonstrable civic environmental activities) (see 'mission/key focus,' Table 2.2);
- Second, each of the six cases could demonstrate variations amongst organizational typologies—from older to newer civic formations; and from formal to informally structured organizational approaches (see 'association'/'age,' Table 2.2 and Table 2.3). Ultimately the choice was to develop a coupled case approach necessitated having one 'older' and one 'younger' or newer civic association amongst each city-specific case pairing (Table 2.3);
- Third, each of the six cases could illustrate varying uses of ICTs for advancing associational goals such as experimental applications or critical uses of tools in their associational formation (see 'ICT-linked activities,' Table 2.2).

In sum, the six civic associations featured in this investigation demonstrated diverse ideals and ideas as well as projects and practices—thus providing relevant empirical research sites for 'testing' an info-sociational model.

Table 2.3: **Associational case pair selection—by city setting, age difference & case type** (Author)

Associational case pair by city setting	Date of association origins	Age of association (origin to 2012)	Case type & age difference between case pairs
Hong Kong			
1. Designing Hong Kong	2003	9 years	'younger case'
2. The Conservancy Association	1968	44 years	'older case'
Singapore			*difference 35 years*
3. Green Drinks Singapore	2007	5 years	'younger case'
4. Nature Society (Singapore)	1991	22 years	'older case'
Taipei			*difference 17 years*
5. Taiwan Enviro Info Association	2001	11 years	'younger case'
6. Organization of Urban REs	1989	23 years	'older case'
			difference 12 years

Further analysis in this investigation has been provided by an approach involving comparisons between age-related case study pairings or couplings amongst the three settings. George and Bennett suggest (Ibid. 2005:18) that an effective approach when undertaking theory-building from case studies is to employ: "the use of a combination of within-case analysis and cross-case comparisons within a single study or research program." One of the drivers in comparing these coupled case distinctions (i.e. 'younger' civic associations compared to 'older' civic associations) stems from early fieldwork observations which occurred in Taipei during the first round of interviews during the Spring of 2009. This observation hypothesized that ICT-linked practices in civic associations, compared with physical or face-to-face practices, appeared to be being either de-emphasized or de-prioritized over time in several groups which had initially started out as

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heavily digitally dependent or digitally advanced (e.g. TEIA and TEAN both illustrated such groups that were interviewed in this investigation). Moreover, by contrast, traditional or longstanding groups (e.g. OURs) which had not employed ICTs extensively in their early existence or start-ups (or slowly introduced them into their organizations over time) appeared to be increasingly experimenting with ICTs compared to their earlier reliance of face-to-face practices.

In this study the selection of age distinct case pairs in each city setting was deemed an approach that could provide additional 'layer' of analysis about the ICT practices amongst civic environmental groups—particularly whether there might be age-related differences in ICT-linked practices between 'digitally savvy' younger and 'traditional' or older cases of civic environmental associations (Figure 2.1). The city-specific case pairings employed in this investigation also provided a rationale for focusing upon a smaller, more manageable selection of subject case studies sites from amongst an initially large pool of civic associations in the three tiger cities (i.e. the group interviewed in the first round). At the same time the case pairings enabled comparative insights not only within cities, but also between the three city settings.

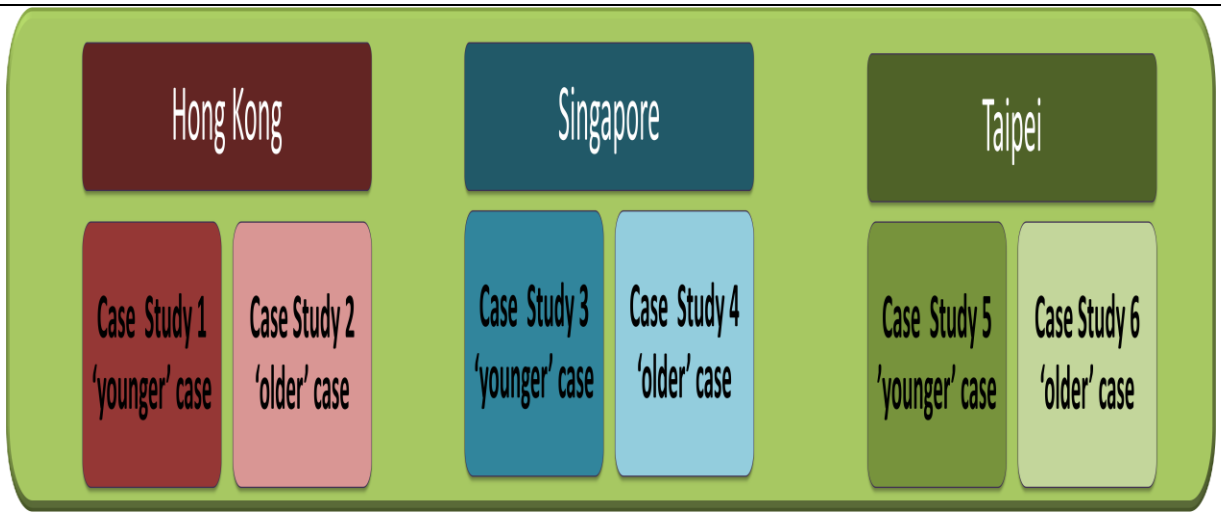

Figure 2.1: **City-specific paired or coupled cases of civic environmental associations across the three Asian tiger city settings in this investigation.** This heuristic identifies the investigation's coupling of 'younger' or recently formed civic environmental associations (DHK, GDS, TEIA) and the 'older' or longstanding civic environmental associations (CA, NSS, OURs) (Author).

2.5 Addressing validity and reliability threats in this study

The researcher attempted to build into the overall methodological approaches a variety of validity and reliability checks. The purpose of these reliability checks was to address potential systemic threats leading to misapplied methods, or resulting in misleading or misunderstood

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findings or analyses about the nature of phenomena in each of the six case study sites in the three tiger city settings. The key validity and reliability checks identified by the author in the initial tri-city research proposal (Sadoway 2008) touched-upon three key areas of concern, with their remedies also identified below, including:

a) Language and culture. Likely the most significant threat to the reliability and validity of findings in this study was language and culture, given that the researcher was not raised in these societies. Although there are different languages employed in all contexts (i.e. body language, technical language, professional language, power/gender relations, etcetera), being a non-native speaker in Taipei and Hong Kong (and with some communities in Singapore) could potentially have resulted in systemic misunderstandings or misinterpretations during the interviews and observations. Several cross-checks for addressing these threats included: the use of translators (needed for part of the time in one of the six cases); the use of multiple interviews within groups by speaking with different members of the same civic environmental organization where possible; the use of 'key informants reviews' of either analytical reports/write-ups by the researcher or discussions of preliminary findings with the interviewees and/or translator-interviewees; and the use of a triangulation of methods (e.g. interviews, local news databases; bilingual surveys) as cross-checks on the research procedures.[53]

b) Case alignment. The eventual selection of the age-specific case pairs (from amongst the larger 'pool' of civic environmental groups) was an attempt to provide a requisite variety (versus a single case in each city) in comparatively applying the info-sociational model in each of the city settings. Describing and comparing the cases in their local context or civic space storyline (as found in Chapter Four in this study) served as check on the validity of findings; as did the wider pool of 90 interviews; as well as the 27 survey responses from the 121 surveys.

c) Depth of analysis. The relatively short period of time for conducting qualitative interviews or observations in each city was a concern at the study's outset since findings ideally ought to have been temporarily wide-ranging and aiming for a 'thick' ethnographic style of qualitative analysis. The use of grounded theory attempted to partially alleviate this threat by serving as a method for rapidly linking observations and theorizing in the course of the fieldwork. In addition, by interviewing differing members of the same civic associations—aside from those with single maintaining Founders such as DHK and GDS—distinct perspectives on the civic environmental groups were offered and findings could then be cross-referenced or cross-verified amongst differing interviewees and other sources (e.g. CA [2 different members]; NSS [3 different members); TEIA [2 different members]; OURs [4 different members]. In addition, the fact that interviews took place longitudinally, in multiple rounds over a number of years, permitted an identification of some of the ICT-linked issues which unfolded over time during the research (e.g. NSS's web migration). Follow-up interviews were also supplemented by ongoing online reviews of associational websites, as well as via literature reviews and media

[53] All three case cities do have English language governmental, archival and media materials (for example Taipei at the start of the investigation had three English daily newspapers; however few civic associations in Taipei did have core documentation in English). Singapore residents, particularly, but also Hong Kong residents, have significant bilingual or multilingual language capacity and written materials in both settings were widely available in the English language.

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monitoring pertaining to the civic associations. While constant comparisons will naturally be made within and between the cases and their case settings, each case study also needs to be viewed as an isomorphic narrative or 'standing on its own.'

As an 'outsider' and 'naïve investigator' the researcher arguably would have been less capable of contributing research insights in a singular city setting rather than in the three cities, since extensive scholarly work and expertise on a range of urban sustainability topics already exists locally.[54] By contrast a multi-case study approach amongst distinct city settings was seen as potentially providing unique insights—as well as reducing either 'local loyalty', or 'fierce critic' biases of longer-term residency. Furthermore, working in three distinct urban Asian settings—as opposed to a single or dual setting approach—arguably has served as a risk reduction strategy or a check on possible systemic threats affecting the case studies associated with the *'Potemkin* effect' or 'observer effect', and exogenous factors influencing the validity and reliability of the findings.

In summary, while barriers such as language or cultural familiarity cannot be easily overcome, checks to minimize and identify some of the threats noted above were attempted *a priori* in the research design for this investigation. The methodological approach devised here aimed to help in understanding some of the characteristics of the unique socio-technical assemblages that have been forming as civic environmental associations continue to employ and experiment with ICTs in Hong Kong, Singapore and Taipei. The overall research approach to developing the case studies involved attempting to systemically investigate the info-sociational propositions (identified in Chapter One) by drawing upon: a series of interviews with multiple sources in each civic associational site; reviewing websites, relevant local news and civic associational documents; conducting a limited follow-up survey of a wider pool of civic environmental associations; and attempting a structured comparison of age-distinct cases of civic associations employing the criteria soon to be identified in the info-sociational model. In addition, this section above also identified three key validity or reliability threats and how the investigation attempted to address or remedy these.

2.6 Researcher reflexivity: associations, civic environmentalism and ICTs

Three brief reflexive observations from the author—alongside the issues already identified above—are arguably prescient to the methodology shaping this investigation. These observations relate the researcher's interests and work in civic associations and interests in civic environmental issues and ICT-linked civic change.

First, as a former non-governmental organization (NGO) paid Coordinator (in Canada in the 1990s); and as a volunteer working with a wide variety of civic groups in Asia and Canada, the researcher retains a personal interest and belief in the importance of voluntary mutual

[54] In response to the researcher's concerns about how to potentially avoid being 'used' by NGOs/civic associations in the research, the forthright advice of an experienced political scientist was [to paraphrase] that the researcher 'ought to let the field use you'. Some ethnographers might agree. For example Hammersley and Atkinson (2007: 15) suggest "surrender[ing] to the social world," in undertaking ethnographic approaches.

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association and community-based decision-making approaches as a means of social and environmental transformation and innovation.

As was noted earlier, the author briefly volunteered during the research fieldwork period in Hong Kong with the local association Civic Exchange, during Fall 2009 / Winter 2010, in the capacity as a voluntary graduate student intern. This experience not only provided a glimpse into the workings of a civic association based in and focusing upon issues in Hong Kong; it also afforded involvement in events related to urban planning, transportation, energy-related and climate change issues, including (net)working with other civic groups. These events assisted in better understanding urban sustainability and civic issues in Hong Kong and they also provided an opportunity to learn more about local civic environmental associational actor-networks. In addition, while in Hong Kong the author enjoyed the opportunity to walk and hike in a variety of urban and rural spaces which provided insights into local issues identified in the discussion of Hong Kong's 'civic space' storyline—as well as relating to some of the key issues identified by the Conservancy Association (CA) and Designing Hong Kong (DHK), as the case studies in Chapter Five will further elaborate.

While residing in Singapore, in late Summer 2009 (and again briefly in November 2010), the author attended several conferences along with taking the opportunity to visit and hike in local nature reserves and historically contested urban environmental sites (e.g. Buhkit Timah, Sungei Bulah, Palau Ubin). Several of these locales were the focus of key campaigns that involved the work of the Nature Society (Singapore) (NSS), as the case studies in Chapter Six (including Green Drinks Singapore [GDS]) will discuss further. Also, while residing in Taipei (in 2009 and 2010), including serving as a guest researcher affiliated with Center of Asia-Pacific Area Studies at Academia Sinica, the author attended several civic associational coordination or networking meetings (as an observer); as well as at two conferences and various public events that involved civic environmental groups (including an public education event and small protest at a National Energy Meeting in Taipei). These and previous residency in Taipei also afforded the opportunity to walk and visit districts of the city (and former Taipei County) and to hike around the city-region. Again hikes within and around the city not only provided an urban 'get away' they also provided an opportunity to gain broader situational perspectives on key environmental and spatial issues in and adjacent to the city-region, several of which will be discussed in the cases of the Taiwan Environmental Information Association (TEIA) and the Organization of Urban REs (OURs) found in Chapter Seven.

Second, in relation to urban environmental issues the author has remained actively interested in these from both an academic perspective, as well as from personal involvement in environmental organizations whilst residing in various cities and communities (from Toronto and Vancouver; to Taipei and Ulaanbaatar, for example); including while doing minor voluntary stints with groups such as Canadian Parks and Wilderness Society, Environmentalists Plan Toronto, Western Canada Wilderness Committee and WWF in Mongolia.

Third, as a formerly self-professed former 'neo-luddite' the author continues to question technological practices and techno path dependencies, particularly with an interest in science and technology studies and socio-technical issues in relation to urban life. In relation to the

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intersection of technology and social movements the author's first significant encounter with digital activism was during the Seattle WTO protests (in the Fall of 1999). As a last minute volunteer roving reporter (signing-up with the Independent Media Centre) the author was fortunate to be able interview various protesters of all stripes and wrote a single article for a hard copy newsletter—which also happened to be digitized and distributed online in an early collective effort at digital activism. While the experience was largely an inspiring one, upon returning to Vancouver after the Seattle WTO protests the author discovered that a second article had erroneously been published online under his name (in the same template format as the first, but with a different theme) and was in circulation on the Internet. Although the editors were alerted to the problem the spread of that newsletter through online remediation made it seemingly fruitless to alter its inscription in cyberspace. This experience in Seattle, in 1999, personally brought home the power, potential and possibilities of the Internet (and ICTs) as a tool for socio-environmental activism; but also for some of its potential problems. Partially it is some of these types of paradoxes related to civic environmental associational uses of ICTs that have prompted the researcher's curiosity about the topic of this investigation.

This Chapter has attempted to illustrate how *research methods and procedures* have been closely intertwined in the design and implementation of this investigative journey; and more intimately, how these have bridged personal experiences (and interests) with new human relationships developed during the research journey. In many ways this research journey involved a series of convivial meetings and discussions or interviews as the members of civic environmental groups in all three cities kindly provided insights into their work, their ideals and ideas; and their struggles and frustrations. In some ways then, this investigation has gone beyond being a study of how civic environmentalists have been employing ICTs in their work—since it also touches upon the dreams, passions and actions of groups of committed citizens in Hong Kong, Singapore and Taipei who have actively sought more livable cities.

The next Chapter works with a set of transdisciplinary theories in order to construct an integrated theory-frame—the 'info-sociational model'—for better understanding the practices and paradoxes involved in the co-evolution of civic environmentalism and ICTs.

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Chapter Three. Towards an integrated info-sociational model

3.1 Introduction: designing an info-sociational model

"When the dominant institutions of society no longer have the monopoly of mass-communication networks, the dialectics between power and counter-power is, for better or for worse, altered forever."
—Manuel Castells et al. (2007: 213)

Should civic environmental volunteers be asked to draft *emails of protest,* or instead be mobilized, via an *email blast*, to a physical public protest in a high visibility global city space?[55] Will clicking an *e-petition* that targets corporate misdeeds be sufficient, or is organizing a global consumer boycott against the company preferable? Should a grassroots group inform the public about ill-conceived government land use plans *on their news blog*—or is it better to disseminate *text messages (SMSs)* organizing a *flash mob* protest?[56] Can *social media* really serve as a platform for deepening public deliberations and citizen knowledge about contentious civic issues? These politically-charged questions about digital organizing tactics and tools illustrate the complex choices facing civic associations as they increasingly employ an array of information communication technologies (ICTs) in their daily practices. Such questions also reiterate the need for a cross-cutting, integrated analytics geared to the comparative study of civic associational uses of ICTs and of related shifts in knowledge and power—as Castells and his colleagues (2007) imply in the quotation above. Stemming from the research questions and propositions, this Chapter seeks to develop an info-sociational model which focuses upon understanding a troika of ICT-linked transformations in civic associational practices—namely, organizational, participatory and spatial changes—and in turn which is situated in distinct civic space contexts; and which identifies both critiques and potentialities in civic ICT praxis.

Empirically evaluating the types of questions listed above would be greatly assisted by a theory-frame capable of comparative analyses of both the *dynamics* and the normative *potentialities* of civic associations' ICT-linked practices. The previous Chapter has outlined the research strategies and mixed methods that were employed in this multi-year, tri-city investigation. The purpose of this Chapter is to build-upon findings from the interdisciplinary research literature in order to design an 'info-sociational model.' This conceptual model will assist in analyses and explanations of how and why civic associations are employing ICTs in their practices; as well as

[55] An 'email blast' refers here to a one-to-many digital action where an electronic mail message(s) is distributed to a preformatted list or database.

[56] 'SMS' refers to short message service, which typically employs mobile phone or personal assistance devices. The approach, however, illustrates the ongoing mixing of commercial Web 2.0 tools as micro-blogging (e.g. *Twitter, Plurk*) and social media (e.g. *Facebook, Linkedin*) as well as 'traditional email services' allow the option of platform-hardware bridging whereby short messages can be sent or received by these services. 'Flash Mob' refers to a relatively spontaneous physical public gathering organized via ICTs typically involving performance art or activism (see: Rheingold 2000).

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critically understanding the extent to which these ICT-related practices may be altering urban 'civic space.'

The info-sociational model has been devised to address two distinct agendas: firstly, to serve as a *mode* of comparative analysis of the ICT-linked practices of civic associations in both *associational-centric* and *city-centric civic space* contexts. Secondly, this descriptive model will serve to map the potential of ICTs for *transformational praxis (termed 'critical hope' here).* The first agenda involves three *city-specific civic space storylines* in Asian tiger cities; and it crucially involves the analyses of the ICT-linked *organizational, participatory* and *spatial* practices in civic associations. The second agenda employs the info-sociational model in building theory about how and why info-sociational practices are transforming local and associational civic-cyberspaces *and* critically assesses their transformational potentialities.

Before describing the individual components of the info-sociational model in greater detail, it remains important to review the meaning of info-sociations. The term 'info-sociations'—or information communication technology (ICT) associations—was introduced in Chapter One as a signifier for representing fluid, ICT-linked practices in non-profit associations.[57] The concept of info-sociations was initially constructed as an open socio-technical signifier or heuristic for theorizing about non-stabilized ICT-linked practices and potentially transformational 'digital formations' involving civic associations (Latham & Sassen 2004: 1; Sassen 2005: 2-3; Dean et al., 2006: xxii; Marres 2006: 3-4).[58] Info-sociations were also described as 'representing fluid, multimodal, multiplexed and multiscalar ICT-linked practices.' Such practices, for example, involve the grounded activities of citizens in mixed or multiplexed (that is blended) face-to-face physical and virtual networks operating within an array of multimodal interactive communications technologies at various scales of practices from the local to the global (i.e. multiscalar).

Info-sociations, notably, represent diverse forms of *praxis* where ideals and ideas in civic associations are being put into practice. Info-sociations therefore can link civic associational practices, uses or experiments with ICTs in broader, idealist frames of reference—whether activist or pragmatist. In this study six metrics linked to the three ICT-linked organizational, participatory and spatial transformations will be central for gauging ICT-linked practices in civic associations as part of the design of the info-sociational model. These 'barometers of info-sociation'—which arguably can help advance the study and theory of the ICT practices in civic associations—will be further detailed as the info-sociational model is unpacked throughout this Chapter.

[57] Although there has been no shortage of terminology for discussing contemporary info-social ramifications in cities or civic life the idea of info sociations suggests a potentially distinct heuristic applicable to the study (and theory) of conjunctions between *urban civic associations* and *information communication technologies.* Examples of the relatively recent lexicon for info-social interactions includes: *netizens, cyber society, civil network society, civic-cyber society, cyberdemocracy, civic networks, digital cities, e-space, e-government, cyber citizens, cyber-activism, hacktivism, electronic democracy,* and so forth (e.g. see: Schuler & Day 2004; Aurigi 2005: 4; Jenson et al., 2007).

[58] Stabilization in this respect refers to technological stabilization as discussed in actor-network theory (Callon 1986 and Latour 1993, cited in Holmstrom and Robey 2005: 184-185). In this reading one phase of translation of technologies into 'stabilized' actor-networks suggests that they are, "institutionalized and no longer controversial" (Ibid, 168).

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In this investigation info-sociational practices are conceptually treated as being nested within the associational sector and therefore nominally part of the family of traditional 'civil society.'[59] The info-sociational model employed in this study therefore serves as a theory-frame for comparing the varied ICT-linked practices and experiments amongst diverse types of non-profit civic associations—potentially ranging from longstanding NGOs, to temporary online alliances, or campaigns of loosely affiliated digital citizens. As part of the metaphorical 'family' of civic associations, co-evolving info-sociations involve voluntary organizations employing ICTs in their practices—ranging from formal to informal types of organizations, including: civil society organizations (CSOs) or non-governmental organizations (NGOs); social or environmental movements; and (informal) counterpublics. Info-sociations, as was noted in Chapter One, does not refer to ICT linked practices in governments or businesses—they are unique to civic associations.

Table 3.1 **: Comparing ideal-type 'traditional' civic associational & 'info-sociational' practices** (author)

Comparative properties	'Traditional' civic associational practices	'Info-sociational' practices
governance involvement	local-regional grounded alliances	multiplexed & latent g/local alliances
organizational trajectories	consolidation / professionalization	knowledge networks / communities of practice
public participatory mode	solidarity group / civic utopian	collaborative / heterotopian counterpublics
spatial characteristics	grounded & physically proximate	blended / multi-scalar / multiplexed (grounded & virtual)
politicization of ICT praxis	neutral / organizational tools	contested / integral to civic activism
management of ICT uses	passive / reactive / adaptive	proactive & steering / potentially innovative
network characteristics	dense face-to-face networks	mixed face-to-face & virtual nets / use of multimodal networking tools
media & publicity	external press / public events	do-it-yourself (DIY) & crowd-sourced / on-offline events

A comparison of associational ideal-types, shown in Table 3.1, contrasts the theoretical properties of 'traditional' civic associational practices with hypothesized 'info-sociational' practices.[60] This discussion foreshadows some of the distinctions that will emerge over the course of this investigation, particularly in conjunction with the empirical work in Chapters Four

[59] The idea of using family with reference to various types of civic associations comes from the work of Muukkonen (2009). He suggests the use of Wittgenstein's idea of "family resemblances" (Ibid.,693) as a means of framing the field of civil society studies including a "family of concepts" such as: "third sector, nonprofit, voluntary sector, civil society, philanthropy, nongovernmental organizations, social economy, and public benefit organizations" (Ibid., 684).

[60] Jessop (2002: 460) provides a useful description of the theoretical purpose and empirical role of 'ideal types.' He suggests that in social theory: "Ideal types are so called because they involve thought experiments, not because they represent some normative ideal or other. They are theoretical constructs formed by the one-sided accentuation of empirically observable features of social reality to produce logically coherent and objectively feasible configurations of social relations. These configurations are never found in pure form, but their conceptual construction may still be useful for heuristic, descriptive, and explanatory purposes."

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to Seven, in examining what arguably is indicative of a shift from traditional forms of civic associations to info-sociations.

As identified at the beginning of this study, the concept of info-sociations does not simply refer to singular ICT tools, nor traditional media (print, radio, television) used by civic groups. Nor do info-sociations refer to the singular or discrete uses of ICTs by individual citizens, instead the link is between ICT practices by non-profit civic groups or civic associations in collective forms of action, solidarity, affinity, interest or counterpublic formations. Therefore, info-sociations cannot be seen as entirely separate from civic associations, despite the distinctions made above that they in some respects represent a shift away from traditional civic associational practices.

The discussion above has also suggested that the concept of info-sociations does not represent neutral information platforms or artifacts, but rather fluid, socio-politically contested interface zones formed in the interstices of civil and cyber society. Such a point has been underlined in Sassen's (2001: 32) observations about ICT uses by civil society, earlier in the new millennium:

> *"This is a particular moment in the history of electronic space, one when powerful corporate actors and high performance networks are strengthening the role of private electronic space and altering the structure of public electronic space. But it is also a moment when we are seeing the emergence of a fairly broadbased – though as yet a demographic minority – civil society in electronic space. This sets the stage for contestation."*

This focus on the need to understand how ICTs are transforming political or participatory digital practices of civic associations will indeed be one of the cross-cutting features of this study's info-sociational model. Besides comparing ICT uses and tools in civic associations—akin to what Bijker (1995: 288) refers to as 'artifacts and facts'—the info-sociational model provides a cross-cutting, integrated approach for analyzing the intertwining nature of physical and digital practices (particularly organizational, participatory and spatial practices) in and amongst civic-cyber associations.

The info-sociational concept and model could arguably have been applied to socio-technical studies of local associations' ICT practices in differing global city settings; or it could nominally have been applied to analyses of differing civic associational types—such as disenabled peoples' rights associations; housing activist organizations; or workers rights groups—however, in this investigation, it has been applied to an assessment of six civic environmental associations situated in Hong Kong, Singapore and Taipei.[61]

To reiterate, the idea of info-sociations refers to civic associations employing ICTs in their work and practices. This brief preview of the info-sociational concept and model has yet to specify the linkages between its underlying theoretical premises and the criteria (or properties) that have been devised for evaluating its effects. These linkages will be the focus of the sections that

[61] Also recall that civic environmentalist groups were defined as non-profit, non-state voluntary member associations whose focus includes natural or built environmental and spatial issues primarily in the context of cities or urban-regions (see: Chapter One, definitions).

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follow and they will ultimately assist in comparing the individual case studies of ICT practices amongst civic environmental associations.

The remainder of this Chapter draws on the research literature in order to construct an *integrated info-sociational model* for the study of ICT-linked practices in civic associations. Each of the three components of this model will be further elaborated, including: civic space storylines, civic associational practices and civic cyberspaces of hope. Finally, the *Chapter conclusion* serves as a transition to the empirical portion of the investigation, where the info-sociational model will then be deployed as an analytical tool as well as a theory-frame.

3.2 An integrated info-sociational model for studying civic-cyber associations

Besides identifying gaps in the research—including a need for comparative intra and inter-urban research on civic-cyber associations; and a need for studies of digital environmentalism, particularly in locally-rooted civic organizations such as in the tiger cities—the literature review integrated into this Chapter will provide direction on an array of research strategies for developing an info-sociational model. The conceptual groundwork underpinning the info-sociational model draws-upon research from a wider body of transdisciplinary research literatures—metaphorically speaking, from amongst an 'archipelago of ideas.' Such a model—besides analyzing and framing how and why civic associations employ ICTs in their practices; and how these might be transforming urban civic spaces (both virtual and physical); and identifying critiques and potentialities in civic ICT praxis—can provide analytical insights into 'the reconfigurations of socio-technical power' (Graham 2004b:24) related to ICT-linked practices in contemporary civic associations and cities.

Interwoven into the literature review has been the need for an info-sociational model that is aligned to the practical daily issues facing civic associations and their co-evolving ICT-linked practices. Much of the research on civic-cyber transformations remains focused on the ICT-related practices of internationally-oriented or environmental groups based outside of Asia (e.g. Warkentin 2001; Rogers 2003); or their storylines pertain to North America (e.g. Zelwietro 1998; Galusky 2003; Shulman et al., 2005), to Britain (e.g. Pickerill 2003; Horton 2004), to Australia (e.g. Dhakal 2011); or to Mainland China (e.g. Yang 2003, 2007). Therefore, not only has there been limited research at the intersection of civic associations and ICTs in general—as other scholars have identified (Bach & Stark 2003: 2; Schuler & Day 2004: 1-2; Latham & Sassen 2005:1-2; Sassen 2004: 662; 2005: 74; Dean et als., 2006: xx-xxii; Jenson et al., 2007: 47; Dhakal 2011: 562)—what studies have been undertaken have tended be dominated by a focus upon Anglo-American contexts with very little emphasis on ICT practices by civic environmentalists (also see: Marres 2010: 55); and particularly inside the Asian tiger cities. Furthermore, while considerable research does exist on the *non-digital* aspects of civil society, environmental movements and environmentalism in each of the three tiger cities (see Chapter Four), there have been few English-language comparative studies on civic-cyber environmentalism amongst these three urban settings. Hence the intersection of *ICT practices and civic environmentalism*

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inside and between Asia tiger city settings represents a research gap that this investigation seeks to address.

Despite the gaps noted above, there are a number of studies whose work partially intersects with the key variables in this investigation—and these help to inform the empirical work in this study. In particular, Chapter Four's discussion of the changing 'civic space' (including cyberspace) amongst the three tiger cities will touch upon research by: Lai (2004a,b); Tan (2007); Douglass, Ho and Ooi (2008); Ip (2009); Kuang (2009); Skoric et al., (2010); Ip (2011); Lam & Ip (2011); Qiu (2011); Zheng (2011). Identifying how some of the research literature identified above will link to the key components of an integrated info-sociational model will be the focus of the remainder of this Chapter.

The discussion up until this point in this study has suggested that multiscalar, multimodal and multiplexed 'info-sociational' practices in civic associations may somehow be contrasted with 'traditional' associational practices. The research questions identified in Chapter One identified key themes and the need for further inquiry. However, the troika of research questions and propositions lacks guidance for how to further proceed with such an investigation; or how to build theory from empirical findings about the ICT practices of civic associations. This section builds upon the research questions and propositions by introducing an integrated, cross-cutting theoretical framework—*referred to as the info-sociational model.* This model represents a *descriptive, explanatory framework,* rather than a forecasting, simulation or technologically deterministic ICT 'impacts model.' At the core of the investigative approach remains a focus upon the socio-technical co-evolution of ICTs and civic associations—particularly at the association-centric level.[62] References to ICTs therefore are not viewed as singular 'driver-response mechanisms,' but rather as elements in socially co-constructed assemblages of evolving technologies *and* human actors, particularly their actions in civic associations situated in complex, diverse urban settings.[63]

This section outlines the three distinct conceptual components including the theoretical criteria that will help to operationalize the info-sociational model. These components identify a set of analytical criteria (derived from the research literature and the initial fieldwork) for comparing civic-cyber practices in the three tiger cities and potentially elsewhere.

[62] In developing a framework for spatially analysing Internet activism Rogers (2003: 48) warns of the limitations of developing static models for studying such phenomenon: "It would be wrong to assume that we can identify a model of online activity—political or otherwise—that can be broadly applied. The contexts of use, the availability of particular soft- or hardware, the networks of people accessing any particular online resource and so on all affect its potential to promote or precipitate political change. There are certainly patterns of use, and information providers will aim to direct users to particular resources, but models are a long way off yet."

[63] The term 'assemblage(s)' is drawn from Actor-Network-Theory (ANT) and in this approach refers to, "complex and heterogeneous *assemblies* of both social and technological actors, strung out across time and space and linked through processes of human and technological agency" (Graham & Marvin 2001: 185). Also see: Latour (2006); Collier & Ong (2005: 12-14); Farías and Bender (2010); and Farías (2010: 198). Law (2004: 41) emphasizes that 'an assemblage'—as an abstract noun—is an active, uncertain and unfolding process which is, "ad hoc [and] not necessarily very coherent." Law (2004: 41) quoting Watson-Verran and Turnbull (1995: 117), adds that an assemblage "also has the virtue of connoting active and evolving practices rather than a passive and static structure." Law (2004: 42) also suggests that the term "needs to be understood as a verb as well as a noun." As a verb he explains that assemblage, "is a process of bundling, of assembling, or better of recursive self-assembling in which the elements put together are not fixed in shape, do not belong to a larger pre-given list but are constructed at least in part as they are entangled together. This means that there can be no fixed formula or general rules determining good or bad bundles" (Ibid., 42).

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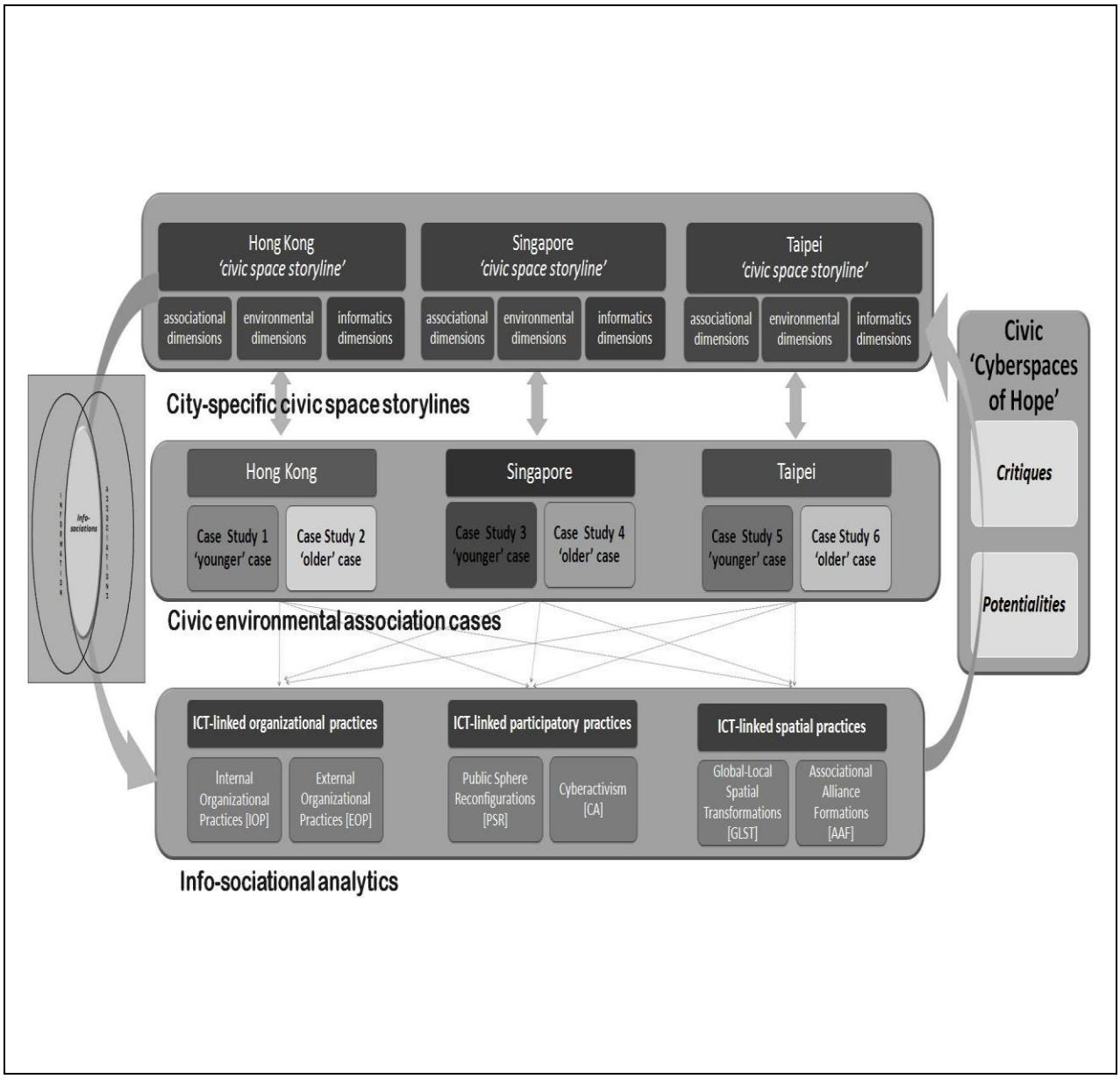

Figure 3.1: **An integrated info-sociational model for the study of ICT practices in civic associations**. In this study the model is applied to the investigation of six civic environmental associations in the three Asian tiger cities of Hong Kong, Singapore and Taipei (Author).

Together these elements form an integrated 'info-sociational model,' which will partially assist in building theory about ICT practices in civic associations. As Raewyn Connell (2007: 225) suggests in relation to social science theory-building:

> *"Theory is the way we speak beyond the single case. It involves imagination, the search for patterns, the critique of data. It is how we get the criteria for comparisons and the terms of a diagnosis. Theory, too is organic to the growth of social science."*

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Science and technology studies (STS) scholar Wiebe Bijker's (1995: 17) socio-technical work suggests that a theoretical model—such as the info-sociational model—can be understood as: "a heuristic device, a set of sensitizing concepts that allow us to scope out the relevant points, but one that will require adaptation and reformulation for use in new instances." The three core components of the info-sociational model feature the types of 'sensitizing concepts' that Bijker refers to (or the 'criteria for comparisons and the terms of diagnosis,' which Connell discusses). These three components of the integrated info-sociational model are respectively outlined below:

a) City-specific civic space storylines

The first component of the info-sociational model involves descriptively mapping and comparing the *'civic space storylines' distinct to each city setting.* This component is linked to the empirical work in Chapter Four of this investigation and it includes three descriptive elements which focus upon: *associational life, environmental dimensions; and informatics dimensions.*

b) An analytics of transformations in associational practices

The second practices-focused component of the info-sociational model, centres-upon an empirical description of the three cross-cutting, ICT-linked a*ssociational centric transformations in organizational, participatory and spatial* practice*s* inside civic associational actor-networks. This component—the principle focus of the investigative work—is closely linked to the empirical findings in Chapter Five, Six of Seven of this study. Organizational practices focus on *internal* and *external* properties of ICT-linked transformations in associations' organizational culture. Participatory practices emphasize *public (cyber)sphere reconfigurations* and *cyberactivism*. Spatial practices centre upon *global-local spatial transformations;* and *associational alliance formations*.

c) Civic cyberspaces of hope

The third component of info-sociational model, involves exploring '*civic cyberspaces of hope'* potentially seeded from civic associational ICT practices. This component, linked to the *critiques and potentialities* of civic ICT practices and found in Chapter Eight and Nine of this investigation, represents a theory-building aspect of the info-sociational model. It draws-upon the interplay of associational-centric practices *and* city-specific civic space storylines in order to build insights about info-sociational transformations of civic cyberspace. A 'civic cyberspace of hope' also features both *critiques* (i.e. current and anticipated problems) and *ideals* (i.e. civic-cyber possibilities or potentialities) related to ICT-linked practices in civic associations. These two seemingly divergent elements—the critical or pragmatic *and* hopeful or idealistic—can both contribute to building a theory of info-sociations.

The three components identified above represent the elements of the integrated info-sociational model employed in this study's investigation of civic-cyber life (Figure 3.1). It bears worth repeating that the core focus of the info-sociational model remains centred on

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associational practices. Although the city-specific 'civic space storylines' provides important context; and 'civic cyberspaces of hope' links the analysis of civic associational ICT-linked practices to the civic space storylines in building theory—*the key analytical focus in an info-sociational approach remains on the examining the practices of civic associational actor-networks.* The remainder of this Chapter respectively details each of the three components of the info-sociational model while cross-referencing the relevant research literature.

3.2.1 City-specific civic space storylines

This First Proposition identified the need for understanding the 'civic space storylines' in each of the three tiger cities. The purpose of this proposition and relevant component of the info-sociational model will be to support an analysis of how the storylines of 'civic space' in each city are being shaped by associational life as well as environmental and informatics issues, amongst other factors. This approach—enacted in Chapter Four—partially adopts Douglass, Ho and Ooi's (2008: 3) definition of 'civic spaces' in an urban Asia context ("various types of life spaces in which civil society finds room to create cultural practices in community lifeworlds"). The approach is extended by examining how civic associational, environmental and ICT-linked practices (informatics) are (re)shaping the storylines of changing civic space in the tiger cities. These civic space storylines, in turn, provide a backdrop for better understanding the practices of environmental associations and their distinct actor-networking contexts in Hong Kong, Singapore and Taipei.

At this point it is also important to clarify what is meant by a 'storyline', since this does not suggest a fictional or fantastic account. According to architect Steven A. Moore (2007: 11), storylines represent, "a shared way of making sense of the past and speculating about what might become true in the future."[64] He identifies the 'context-dependent' aspect of storylines, suggesting that they are forms of knowledge in which, "the stories told by citizens trying to make sense of their world are privileged over knowledge claims thrown in from the sidelines, from academia" (Moore 2010: 10). In this respect the narratives of civic environmental actor-networks in each of the six case studies—located in Chapters 5 to 7—will also contribute to understanding the civic space storylines of each of the tiger cities.

The civic space storylines developed in this investigation partially draws-upon city-specific scholarly studies, however, they are also sourced from what Moore (2010) called 'stories told by citizens' since they cross-reference empirical research conducted with staff, directors and citizen-volunteers actively involved in civic associations. While the storylines of civic environmentalists clearly represents a 'special interest group,' rather than a broad diversity of views of citizens, they do represent an important *corpus* of accumulated experiential and socio-technical knowledge. This includes local knowledge about civic organizations, political

[64] Moore (2007: 11) suggests that sustainability storylines rather than being treated as fixed concepts are best understood as dynamic 'feedback loops' which shift under 'changing environmental and social conditions.'

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participation, local activism, and particularized sets of local spatial and environmental knowledge—akin to what Schuler (2001) refers to as 'civic intelligence.'

Associational life, environmental issues and informatics shapes each of the three distinct storylines for the tiger cities because these dimensions can help to reveal differences in civic associational and public engagement over time and in relation to particular local environmental and public space issues. Examining changing civic space also involves the need to consider local civic associations' roles in shaping the tiger cities civic-cyberspaces—including how each city faces multiple and complex pressures, such as socio-economic polarization along with calls for policy or regulatory harmonization; and competitive spatial strategies such as the desire for 'global city' branding (e.g. Swyngedouw 2000; Douglass & Ooi 2008).[65] The civic space storylines are therefore an attempt to identify a number of the key institutional and socio-political forces shaping post-authoritarian or post-colonial civic associational life in each of the three Asian tiger city settings.

Discussing civic space storylines critically involves the need to understand local civic environmentalism. At least three overlapping interpretations of civic environmentalism are in evidence in the research literature. One emphasizes the importance of *community-driven* urban environmental initiatives (e.g. Shutkin 2000; Agyeman & Angus 2003; Light 2003; Hester 2007; Canizaro 2010). A second views civic environmentalism as a *process* primarily involving *non-state actors*—such as civic associations, networks, committees or local councils, et cetera—compared with state-led or top down governmental and market-oriented approaches (e.g. Karvonen 2010). A third reading of civic environmentalism focuses upon on local or decentralized governmental arrangements and partnerships; devolved decision-making and policy-control and local collaborative approaches to environmental problem-solving (e.g. John 1994; Fung & Wright 2003: 268). Each of these three readings of civic environmentalism suggests a diversity of roles that civic environmental associations are undertaking in the context of their local civic settings: from the pragmatic or programmatic; to the activist or anti-establishmentarian. These roles are further discussed in the city-specific discussions in Chapter Four; as well as in the individual case studies found in Chapters Five to Seven.

The interpretations of 'civic space' discussed above (and in Chapter One) provides as a basis for developing a set of descriptive storylines for in Hong Kong, Singapore and Taipei. In particular, the info-sociational model's city-specific 'civic space storyline' component involves three dimensions which can be considered as framing questions or queries and criteria. Each of these query-criteria, outlined below, will be employed in Chapter Four of this study to frame the empirical discussion:

[65] Not only do ICTs allow for global mediation and alliance building, on the part of civic associations they also are arguably are embedded in the state strategies in global cities—including as a strategic focus on the IT and financial sectors, and on the importance of communications capitalism, including financial gravitas. For example, Swyngedouw's work (2000, 2005) on scalar affects underlines the sometimes problematic disconnect between civic life (citizenship) and the governance of global cities. He refers to the schizoid economic geography of 'deterritorialization-reterritorialization' cycles and relates them to hypermobile capital flows and the increasing acquiescence of public accountability by governments to neoliberal market dictates and norms.

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a) Associational life contributing to the civic space storyline
To what extent are civic associations active in shaping or defining local (democratic) decision-making processes, participation in the public sphere and local civic (cyber)space? (Shutkin 2000; Karvonen 2010: 194).

b) Environmental issues contributing to the civic space storyline
What role does do citizens play in relation to spatio-environmental issues such as conservation, eco-modernization and civic environmental engagement? (Shutkin 2000; Backstrand & Lovbrand 2006).

c) Informatics / ICT issues contributing to the civic space storyline
To what extent are ICTs shaping local civic activism and 'civic intelligence' including in the local communications/media landscape, ICT policies and applications and rights in local civic-cyberspaces? (Gurstein 2001, 2007; Schuler 2001; Lai 2004a).

To reiterate associational, environmental and informatics issues will all contribute to this investigation's 'storylines of civic space' in Hong Kong, Singapore and Taipei. Each of these three dimensions can assist in better tracing the changing nature of civic-cyberspaces in the three tiger cities; as well as contextualizing the six case studies of civic environmental associations and their distinct assemblages of ICT practices. An info-sociational approach for comparatively analyzing the ICT-linked practices inside civic associations will be the focus of the section that follows.

3.2.2 ICT-linked civic associational practices

This section builds upon the second theoretical proposition—that info-sociations are shaped by and shaping of organizational, participatory and spatial practices. The section introduces a set of criteria-linked questions or queries for assessing three hypothetical cross-cutting, ICT-linked transformations in civic associational practices. This troika has important conceptual analogs and antecedents including linkages to the *'multimodal, multiplexing, multiscalar'* info-sociational characteristics identified above; as well as to Soja's (1996) the *'knowledge-power-space'* nexus, itself a variant (with his inclusion of a 'spatial' component) of Foucault's work on the need to examine crucial relationships between 'knowledge and power.'

Linked to the three info-sociational practices under scrutiny at the associational level are a set of six criteria—two criteria linked to each of three practices—which are grounded in the transdisciplinary research literature. These six criteria (and their supporting queries) will serve as an info-sociational analytics for the comparison of civic associational ICT-linked practices in the case study sites (Table 3.2). These six criteria-queries focus upon: *internal and external organizational practices* (IOP / EOP); *public sphere reconfigurations* (PSR); and *cyberactivism* (CA); along with *g/local spatial transformations* (GLST); and *associational alliance formations* (AAF). This troika of info-sociational transformations and the six criteria are not exhaustive, nor

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***Table 3.2*: The core analytical component of the info-sociational model** (Author, also published in Sadoway 2012).

	Dimensions of info-sociations	Properties / criteria of info-sociations	Key evaluative queries for tracing info-sociations and links to the literature
ICT-LINKED ORGANIZATIONAL PRACTICES	Multimodal ICT-linked internal and external organizational actor-network practices, processes or structures. Includes identifying how ICTs are 'translated' in civic associational practices; 'obligatory passage points'; 'knowledge communities' and 'issue networks'	**(A) Internal Organizational Practices [IOP]** Internal organizational changes due to ICT-linked practices (e.g. member, staff, volunteer, director networking via email, etcetera) **(B) External Organizational Practices [EOP]** External organizational changes in community relations due to ICT-linked practices (i.e. media multiplication & interlocking global-local alliances, etcetera).	- How are ICTs being 'translated' in co-evolving civic associations and who are the key actors or 'obligatory passage points'? And is their use supporting novel 'knowledge community' formations? (Bach & Stark 2005); - Have ICTs 'digitized' the internal workings of the organization, including staff or office work arrangements and work culture? (Laguerre 2005); - Are associations using ICTs to politicize issues—such as building affinity networks and green 'issue networks' linked to grounded civic activist strategies? (Marres 2006, 2010); - How have websites and e-mail news, reinforcement emails or other types of e-mail uses functioned in civic associations? (Horton 2004).
ICT-LINKED PARTICIPATORY PRACTICES	Multiplexed reconfigurations in the new/green public (cyber)sphere and ICT-linked activism / mobilization. Includes multiplexed or blended (virtual or non-virtual) civic participation, deliberation, and civic associational activism.	**(A) Public Sphere Reconfigurations [PSR]** Associational uses of (cyber) public sphere e-participatory approaches & ICT tools (i.e. new media, online forums, blogs, etcetera). **(B) Cyberactivism [CA]** Cyberactivist strategies & tactics (i.e. mobilization or online activism employing new/social media, SMS or e-mail, etcetera).	- Have associations employed ICTs in enabling forms of the 'new global' or 'green public' sphere? (Castells 2008; Yang & Calhoun 2007;); - To what extent are associations employing ICTs to form counterpower mobilizations and/or employ a range of cyberactivist tactics? (Pickerill 2003; Castells et al., 2007).
ICT-LINKED SPATIAL PRACTICES	Multiscalar g/local spatial practices & alliances due to the geographic re-territorialization of ICT-linked activities. Includes altered perception, conception of associational scale or reach; and new "communities of practice" and community or "civic intelligence"	**(A) Global-Local Spatial Transformations [GLST]** ICT-related shifts in local-regional-global geographic scale or territoriality of practices. **(B) Associational Alliance Formations [AAF]** ICT-supported or induced local-regional-global alliances & coalition formations.	- Do affordable ICTs enhance civic associational 'geographic scalar reach' or 'scale shifting'; and have associations used scale conscious strategizing? (Sassen 2002: 371); - Are associations forming ICT-supported alliances and 'communities of practice' (Gurstein 2001; Sassen 2004; Horton 2004), as well as shared forms of 'civic intelligence' (Schuler 2001) that build-upon local or community collective knowledge?

exclusive to civic environmental groups, but instead they provide an *integrated analytics* for comparing ICT-linked or info-sociational effects amongst civic-cyber associations. The sections that follow will detail this three-pronged—*organizational-participatory-spatial*—analytics as a central component of the info-sociational model; and in turn for framing the six case study narratives in this investigation.

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3.2.2.1 Civic associations' ICT-linked organizational practices

What is referred to in this study as 'the transformation from traditional civic associations *to info-sociations'* has parallels in the research literature to work on emergent 'digital formations' (Latham & Sassen 2005); and 'permanently beta' dynamics in civil-cyber society (Bach & Stark 2005: 40). Part of these dynamic transformations is tied to ICT-related changes in organizational practices, structures and behaviors.[66]

Building-upon the second research proposition, it is hypothesized that info-sociational effects involve a co-evolution or co-construction *of civic associations* and *of ICTs* (i.e. the Internet, social media, mobility devices, etcetera)—and that this is manifest in transformations in both *internal organizational practices (IOP);* and *external organizational practices (EOP)*.[67] IOPs involve *multimodal* ICT uses by associational members, staff, volunteers, directors or interested publics and result in transformations in internal organizational functions and activities. And EOPs include multimodal ICT practices amongst the same types of actor-networks, but involve transformations in: externally-oriented relations, media multiplication, digital alliances, interchanges amongst local communities (e.g. virtual 'communities of practice'), networking with other civic associations and with various levels of governments or businesses.

Besides tracing the varied multimodal ICT practices in civic associations—such as email practices, social media uses, multimedia platforms activities, or online GIS applications—a focus on internal and external organizational dynamics underlines the need to 'translate' these fluid and co-evolutionary ICT-linked practices. 'Translation', in actor-network theory (ANT) pertains to: "the methods in which an actor enrols others" (Callon et al., 1986: xvii.). And co-evolution suggests that ICT practices are shaping and shaped by civic associations.[68] The point then is to examine how and why ICTs are being translated and how they co-evolve in relation to organizationally-specific practices; and in their city-specific settings.[69] Translation and co-evolution therefore highlights the importance of how ICT practices (including related plans or strategies) are continuously being, (re)assessed and (re)negotiated both *internally* (i.e. inside the civic association) and *externally* (i.e. amongst various publics).[70] Four specific themes in the

[66] Neff & Stark (2002:1-2), describe *permanently beta* as: "a fluid organizational form resulting from the process of negotiation between users, employees, and organizations over the design of goods and services."

[67] Bach & Stark (2005) refer to the "co-evolution of organization forms with interactive technologies" in their focus on non-profit associational ICT practices.

[68] Bach and Stark's paper, *'Technology and Transformations,'* (2003) suggests that co-evolutionary mechanisms are at work as non-profit associations 'transform *technology* through their practices' (Ibid iii, 1-2, emphasis theirs); and in turn where civic associational ICT practices symbiotically, 'transforms social relations' (Ibid. 16-17).

[69] By treating actors as symmetrical and actor-networks as an analytical medium, ANT analysts examine how socio-technical artifacts (such as ICTs) are co-evolving, translated and transformed in practices (e.g. Callon 1986; Bach & Stark 2005; Czarniawska & Hernes 2005; Latour 2005; Verbeek 2005: 148-172; Farias & Bender 2010).

[70] Also, for example, Feenberg & Bakardjieva (2004: 14-15) suggest that technological design not only depends upon human imagination at the insipient stages of technology innovation, use or adaptation, but also that: "later, as a technology is stabilized, its design tends to dictate users' behaviour more successfully and agency recedes into the background, at least until new demands emerge to challenge the established design. Not one-sided determinism, but reciprocity best describes the human-technology relation" (Ibid.,14).

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research literature will further contribute to devising an analytics for civic associations' organizational practices, as discussed below:

a) Civic associations as actor-networks in the city. An actor-network theory (ANT)- inspired 'translation' process involves tracing, "the identity of the actors, the possibility of interaction and the margins of manoeuvre" (Callon 1986: 203). Actors—in this case civic associational members, staffers, or directors; spatial-environmental issues; and multimodal assemblages of ICTs—may, for example, prompt changes or shifts in organizational ideals and work in relation to digital practices.[71] The ANT notion of 'technical mediation' recognizes the importance of translating the complex linkages between technologies and human organizations.[72] Bach and Stark suggest that associational ICT practices involve translating 'between multiple logics' including: 'misunderstanding', 'interpretation', 'contention' and 'renegotiation' (2005: 46). Just as 'technological leapfrogging' can enable transformations in activist mobilization, geographic reach and media multiplication (Sassen 2004; Castells et al., 2007; Drache 2008)—so too, it has been observed that ICTs can enable what may be described as 'associational leapfrogging' in resource poor, newly formed or single person led associations (see Pickerill 2003 on ICT uses in small groups). Is this type of socio-technical or associational leapfrogging occurring amongst small or novel civic-cyber groups in the three tiger city settings? The study explores this question further.

Bach and Stark (2005: 45) identify civic associations as 'sites of translation'—akin to their treatment in an info-sociational approach—suggesting the need to focus upon how civic associational missions links to users, receivers, adopters and adapters of ICTs. In essence, an actor-network analytics identifies civic associations as sites where the social 'translates' the technological via specific assemblages of ICT practices.[73] The concept of 'technological translation' also has parallels to Pfaffenberger's (1992) concept of 'technological dramas.'[74] Like the ANT notion of translation, 'technological dramas' highlights the importance of analysing the interplay between actors and technologies. In both the ANT and technological drama accounts, civic associations and 'obligatory passage points' (OPPs), or gatekeepers, translate and engage in the 'drama' of ICT uses for recruiting or mobilizing publics in tackling civic environmental issues. OPPs as key technological gatekeepers (or 'situated individuals', Keck [2004: 46])

[71] Here it is important to recall that actors can include both human and non-humans or entities (which in ANT studies have included technologies as well as non-human species or technological artifacts, for example).

[72] For instance, actor-network theorist, Bruno Latour (2005), in a crucial 'symmetrical argument' suggests that actors includes both 'human and non-humans'—including technological artifacts or non-human species.

[73] Translation, in ANT refers to: "the methods in which an actor enrols others" (Callon et al., 1986: xvii.). For example, Holmstrom and Robey (2005: 168) suggest that *translation* in actor-network theory represents: "the process of negotiation whereby actors assume the authority to act and speak on behalf of other actors. Via translation, actors deliberately attempt to influence others to accept renditions of problem definitions and potential solutions as valid and legitimate."

[74] "A technological drama," according to Pfaffenberger (1992: 285), "is a discourse of technological 'statements' and 'counterstatements,' in which there are three recognizable processes: *technological regularization*, *technological-adjustment*, and *technological constitution*." Pfaffenberger also suggests that technological dramas can involve users creating, modifying, appropriating, sabotaging or altering technological activities and production processes (Ibid.285).

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involves a need examining their role in introducing, mediating, translating, adapting, modeling or adopting technologies (Callon 1986: 205; Bach & Stark 2005: 39).[75]

ANT accounts are also interested in understanding the co-evolution of ICTs and civic associations. A co-evolutionary perspective suggests that just as ICTs are shaping civic associations, so too do associations shape ICTs.[76] A co-evolutionary approach examines how ICT practices affect organizational change, social mobilization and extending the abilities of civic groups to multiplex virtual with non-virtual uses.[77] Employing ICTs may also result in, *'permanently beta,'* organizations that are perpetually in flux (Neff & Stark, 2002; Bach & Stark, 2005: 40). Such dynamics, Bach and Stark (2005) suggest, involves the need to examine how civic associations are transforming from being information hubs or brokers to becoming *knowledge communities* (Ibid., 41).[78] In sum, the use of ANT approaches in an info-sociational analytics suggests the need to further explore: how ICTs are being translated in civic associations; how ICTs and civic associations are both co-evolving; the roles of key gatekeepers or obligatory passage points (OPPs) in civic associational actor-networks; and identifying the new types of knowledge communities that may be organizationally arising in the process of civic associations employing ICTs.

b) The 24/7 digital office in the global digital city. Laguerre (2005) has argued that globalization and virtuality are intrinsically intertwined in urban (cyber)spaces and in organizational practices. His studies of changing work, governance and immigration in the age of ICTs underpins a claim that the digital city represents the, "virtual embodiment of the global city" (Ibid., 171). Of relevance to an info-sociational analytics of organizations is Laguerre's work (2005) focused on telework, the cyberweek, the digital office and local e-government.[79]

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[75] Four 'subprocesses' in an ANT approach to technological 'translation' can be summarized as: i) *problematization* (actors as 'initiators' attempt to define a problem(s) and solution(s), contingent as an 'obligatory passage point' establishing their indispensibility—and other actors—roles in the network); ii) *interessement* (involves an attempt to stabilize the identity of actors, enroll and lock-in other entities into alliances; eliminate alternative problematizations / enrollments); iii) *enrollment* (involves coordination, motivation, negotiation or ideological control and convincing actors to join); iv) *mobilization* (includes methods to attain loyalty and stability and the network 'starts to speak as one [actor]', stabilizing a technology such that it becomes, 'institutionalized and no longer controversial') (Callon et al., 1986: xvi; Czarniawska & Hernes 2005; Holmstrom and Robey 2005: 168-169).

[76] Graham (2004: 67) suggests that, "coevolution perspectives argue that complex articulations are emerging between interactions in geographic space and place, and the electronic domains accessible through new technologies."Co-evolutionary perspectives can also take on a broader focus on the urban and global context. Graham (2004: 67) suggests that this involves a 'recursive interaction' between urban places and ICT networks and that, "The coevolution perspective is therefore important for the stress it places on the parallel shaping and production of both cities and ICT systems." In addition, urban environmental planner Stephen Wheeler (2004: 236) identifies ecological economist Richard Norgaard's model of 'co-evolutionary' processes as supportive of sustainable cities and planning. He suggests that: "in Norgaard's view, human values, knowledge, and organization evolve in conjunction with the natural environment and technology" (Ibid.).

[77] In their ANT-inspired research Bach & Stark (2005: 37) refer to a, "co-evolution of organization forms with interactive technologies," in civic associations, and they posit that in employing ICTs: "NGOs are being transformed into new kinds of hybrids that coincide uneasily with conventional image as non profit, voluntary organizations" (2003: 2).

[78] Bach and Stark (2005) refer here to how associational ICT practices involve the, "recombinant and multiplicative logic of link, search, interact to sustain themselves and grow" (Ibid., 42). They elaborate that linking involves connecting "(*who* knows whom) to knowledge networks (*who* knows what)," while cyber interactions shape: "cognitive knowledge networks (*who* knows whom or what)" (Ibid., 43).

[79] Laguerre's (2005) studies, based in the San Francisco Bay area—refer to three meanings of 'digital city': i) "the expansion, transformation, and reconfiguration of urban practices brought about by the interface of reality with virtuality"; ii) "aspects of the social and global networks of interaction that urbanites develop because of Internet connectivity"; iii) "the social and physical infrastructure that sustains the deployment, operation and reproduction of urban virtual practices" (Ibid., 172, note 1).

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From one perspective then, global digital cities represent public (cyber)spheres and strategic civic power points where state and business headquarters or decision-centres are paradoxically co-located alongside civic associational activisms and formations (also see: Sassen 2005). Notably, Laguerre (2005: 1) has suggested that the digital city is not separate from the physical city, but rather represents, "an embodied site—the virtual façade of the modern city—where some aspects of social interaction and traditional daily activities are carried out and thereby transformed." He specifies that, "the [digital city] concept is also used to refer to the mass of virtual communications and transactions that fulfill human needs that were once met exclusively by the traditional physical city" (Ibid.,172, note 1). An info-sociational analytics therefore focuses on changes to workplace organizational environments and changes to organizational culture (and norms) related to the ICT-linked practices situated in civic associations and in the evolving global digital city.

c) Civic associations as emergent 'issue networks'. Marres (2006: 3-17) employs the concept of 'issue network' as an analytical tool for understanding the role of ICTs in civic environmental associational political praxis.[80] For example, Marres (2006: 8) suggests that, "the 'issue network' invites us to focus on the broader networks of dissenting actors from the governmental, non-governmental, and for-profit sectors as the sites at which CSOs [civil society organizations] engage in controversies over specific affairs."[81] The emphasis on mapping key actors and their agenda in political affairs is worth considering in an info-sociational analytics. In addition, Marres' (2010) more recent comparative analyses of environmental media spheres, including 'green home blogs', 'green commentary,' and 'green issues networking,' are notable. In this work Marres' (2010) suggests that new *media spheres on the web* are reconfiguring the 'environmental home' leading her to inquire about whether the household is: "being configured as a location of citizenship on the web," or possibly as a, "space for public engagement with the environment?" (Ibid., 49). Marres' work thus identifies how ICTs employed in the domestic sphere can potentially represent new sites *of* and *for* activism, civic environmental (net)work and public sphere reconfigurations. Marres' research (Ibid.) also questions whether the natural environment is being 're-imagined' or 'reconfigured,' in ICT-mediated spheres.[82] In sum, by understanding how civic associations perform as politicized issue networks, as well as how ICTs enable new home office and (net)working configurations, an info-sociational approach can garner insights on the politics of associational ICT practices as well as ICTs role in potentially redefining or reconfiguring environmentalism.

[80] Marres (2006: 4-5) has posited that employing the concept of 'issue networks' for studying the links between ICTs and civic associations (rather than the concepts of 'social networks' or 'info-networks') provides a means for analyzing ICT linkages with civic associational political practices. Marres (Ibid.,13) also suggests that to appreciate "transformations of both civil society practices and ICTs, then, we must approach ICTs as active *mediators* of civil society practices." An 'issue networks' approach, she suggests, involves assessing how issues enable connections or common cause amongst civic associations; how issues are formatted; and how issues are being politically contested (Ibid., 6-7).

[81] Marres (2006: 8) adds: "to say 'issue network' is then to ask: how do CSOs [civil society organizations] insert themselves, or how are they implicated by others, in formations of opponents and allies (as well as actors between these two extremes) that have configured around a common issue?"

[82] This includes key questions about the difficulties of spatio-temporal analyses of digital discourses leading her to inquire if web-based sustainability spaces involves altering notions of time and scale (i.e. the 'everyday' and the 'small-scale and proximate').

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d) Changing digital environmentalism

David Horton's (2004) cyber-ethnographic research examines ICT practices in civic environmental groups. Horton suggests that civic-cyber associations can be understood as 'an elective and constitutive *community of practice'* (Ibid., 737; also see: 744)[italics added]. Horton's perspectives on environmentalists' websites as modes for publicity are of interest in an info-sociational analytics; as are his observations about domestic or home-based environmental activism and green groups' reflexive ICT praxis. In addition, regarding environmentalists' websites, Horton (2004: 738) suggests that these can serve as both publicity and identity portals; and as tools for resource mobilization, including for attracting new activists.[83] His treatment of civic organizational websites as discursive narrative 'frames' underlines the importance of examining associational websites for their insights about associational ideals and ideas in an info-sociational approach.

Horton's research also develops a comparative typology for assessing the function of environmentalist electronic mail communications which he suggests as including: 'informational' email; 'outreach' (bridging or action-oriented) email; and 'reinforcement' email.[84] Horton (2004) suggests that 'informational' or for your information (FYI) emails 'constitute and help sustain weak network ties.' These types of emails, he suggests, are akin to a 'green newspaper' (Ibid., 740). On the other hand 'outreach' emails, according to Horton, "represent explicit attempts either to strengthen weak network ties or to effect bridges between different networks," including 'email requests,' 'invitations' or 'incitements' (Ibid.,740-741). These ICT modes of discourse and activism have parallels to the one-person one letter (OPOL) emails which Lai (2004b: 99) identifies his case study of Greenpeace Hong Kong (discussed in Chapter Four). 'Reinforcement' emails on the other hand, says Horton, help to, "maintain, and build on, the strong ties of activists who already often meet face-to-face," and organizationally, they draw-upon 'powerful notions of duty' amongst (inter)connected actor-networks (Ibid.,743). Horton's research (2004: 740-746)—akin to Marres' findings—also noted how ICTs may be altering green activists' everyday lives by reconfiguring their interactions, work and domestic spaces through enabling household-work hybridization and affording global publicity. Horton's studies provide useful insights for understanding ICT-linked organizational transformations in the info-sociational model.

To recapitulate, Bach and Stark's (2005), Laguerre's (2005), Marres' (2006) and Horton's (2004) research findings provide important contributions to an info-sociational analytics—such as 'technology translations,' 'obligatory passage points,' 'co-evolution,' 'permanently beta organizations,' the 'digital office,' 'green issue networks,' 'green websites' and 'environmentalist emails'—which can be applied in examining actual ICT-related practices. In

[83] For example, Horton (2004: 738) observes that: "Through the work involved in its development, and through the narratives and framings of the group's history, philosophy, tactics and purpose it produces, a group's website also importantly constructs the group and reproduces its collective identity" (Ibid.).

[84] Horton (2004: 743) suggests that ICTs and email (in particular) can potentially reinforce face-to-face communications patterns. He observes: "And again, the increasing incidence of virtual communication between activists using email has the effect of increasing, rather than diminishing, co-present socialities. Importantly however, the continuation of face-to-face sociality appears to be growing increasingly dependent on intervening virtual interactions." As email amongst environmental activist becomes routinized, however, "it becomes ever harde for computerless activists to participate fully in green community life" (Ibid.).

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order to support the need for analysis of organizational practices two sets of comparative 'query-criteria'—in the form of analytical questions inspired and adapted from the research literature noted above—will help to guide the empirical comparisons of civic associational internal organizational practices (IOP) and external organizational practices (EOP). These query-criteria are identified below:

- **Internal organizational practices (IOP)**
  How are ICTs being 'translated' in co-evolving civic associations and who are the key actors or 'obligatory passage points'? And is their use supporting novel 'knowledge community' formations? (Bach & Stark 2005). *Have ICTs 'digitized' the internal workings of the organization, including staff or office work arrangements and work culture?* (Laguerre 2005);

- **External organizational practices (EOP)**
  Are associations using ICTs to politicize issues—such as building affinity networks and green 'issue networks' linked to grounded civic activist strategies? (Marres 2006, 2010). *How and why have websites and e-mail news, reinforcement emails or other types of e-mail uses functioned in civic environmental groups?* (Horton 2004).

How ICTs may be transforming organizational cultures and practices is perhaps an obvious starting place for introducing an info-sociational approach. Another set of transformations, although partially connected to organizational change, involves a distinct set of ICT-linked participatory reconfigurations in public sphere discourse and cyberactivism or mobilizing about civic issues. The section that follows will further develop an info-sociational analytics for gauging the importance of these ICT-linked participatory practices amongst civic associations.

3.2.2.2 Civic associations' ICT-linked participatory practices

Participatory practices are the second type of transformations included in the info-sociational model's component on associational practices. It is hypothesized in this study that ICT-linked changes in civic associational practices involves '*public sphere reconfigurations',* along with ICT-linked civic mobilization or *'cyberactivism*.' Both of these transformations, it is posited, involve blended or *multiplexed practices* (that is, mixtures of physical and ICT uses) enabling participation in the public sphere and civic-cyber activism.

Public Sphere Reconfigurations (PSR) involves ICT-linked public (cyber)sphere e-participatory approaches and associational uses of discursive, interactive and collaborative e-tools, such as: new media, social media, online forums, networked blogs, participatory maps, and so forth (Day & Schuler, 2004; Yang & Calhoun, 2007; Castells, 2008; Crack, 2008; Drache, 2008; Lim & Kann, 2008; Lam & Ip 2011; Zheng 2011). Castells (2008), for example, makes reference to a

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'new global public sphere' linked to a 'multimodal communication space' which he suggests involves key global transformations in politics, participation and social activism. If the 'cybersphere' represents a reconfiguration of the 'public sphere' then how are such transformations manifest in Asian tiger civic associational ICT practices? And how might such changes occur given that participatory democratic (or quasi-democratic) civic, political and public life in the Asian tiger cities arguably does not parallel Euro-American (or Habermassian) conceptions of the 'public sphere'? These questions will be further addressed below.

Cyberactivism (CA) involves ICT-connected activist mobilization strategies and tactics, including g/local activist formations, digitally networked movements and ICT uses by interested publics. This may feature the uses of multiplexed tools or platforms which blend functions, such as: social media, wireless telephony, personal data assistants, as well as email blasts, SMS alerts, digitally-co-ordinated flash mobs and so forth (e.g. Lai 2004b; Castells et al., 2007; Juris, 2008; Rojas et al., 2009; Lam & Ip 2011; Zheng 2011). ICT-tied mass or cellular mobilization of various publics can also feature the involvement of online associational alliances, do-it-yourself (DIY) media and digital networked actions. These may occur at various geographic scales, and amongst a constellation of users involving digital, as well as traditional media (e.g. Lam & Ip 2011). Environmental cyberactivism can also include online reporting of environmental problems; web-(re)mediation and publicity about local environmental justice issues, as well as ICT-linked alternative visioning or counter-planning (e.g. Warkentin 2001; Pickerill 2003; Rogers 2003; Horton 2004; Shulman et al., 2005).

Three selected themes from the research literature—the first two focused on ICT-linked transformations in the public sphere; and the third focused on digital transformations in civic activism or cyberactivism—will further contribute an info-sociational analysis of civic associational participatory practices. These three themes are detailed below:

a) The 'new global public sphere.' Alongside the governance coordination crises faced by 'the networked state,' Castells observes forms of *counter-power projects* and *horizontal networking* that have arisen in tandem with evolving ICT practices (Castells 2008: 87-89).[85] Castells suggests that this includes four spheres of 'global civil society' organizations, namely: a) local civil society; b) NGOs with a global outlook; c) social movements focused on globalization; and d) horizontal mobilizing movements (Ibid., 83-87).[86] Castells (2008) also identifies a 'new global public sphere' consisting of a 'multimodal communications space' that has been digitally spawned or: "built around the media communication system and Internet networks, particularly in the social spaces of the Web 2.0" (Ibid., 90). Castells (2008:78) refers to the public sphere (in the context of communications networks) as, "the space where people come

[85] From his work on urban social movements; to studies on environmentalism and urban sustainability (Castells 1997); to his studies of the socio-technical ramifications of ICTs (Castells 1996); and investigations of g/local identity politics (Castells 1997); and the linkages between society, the public sphere and the Internet (2008); as well as studies on ICT mobility technologies and social movement mobilization (Castells et al., 2007); and observations on 'network governance', ICT-linked movements and communicative 'counterpower' (e.g. Castells 2008; 2011)—Castells' scholarship provides important touchstones for the study of civil society, environmentalism and ICT-linked activism in global cities.

[86] This range of networked civic associational typologies is respected in this study's definition of info-sociations as being inclusive of: *civil society organizations, social/environmental movements and counterpublics.*

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together as citizens and articulate their autonomous view to influence the political institutions of society."[87] Whether (and if so how) such reconfigurations in the public sphere may be occurring in relation to civic associational ICT-linked practices—particularly in Hong Kong, Singapore and Taipei—is of critical interest in an info-sociational analytics.

b) The 'green public sphere.' The above noted reference to a 'new global public sphere' (Castells 2008: 90) has been affirmed in claims in the research literature which identifies the linkages between ICTs and the changing public sphere (e.g. Day & Schuler 2004: 353-375; Calhoun 2004; Yang & Calhoun 2007; Crack 2008; Drache 2008; Lim & Kann 2008; Lam & Ip 2011: 49). But what has been the role of civic environmentalists these public sphere reconfigurations? In this respect Guobin Yang and Craig Calhoun's concept (2007) of a 'green public sphere' merits further examination in an info-sociational approach—not only because their work touches upon intersections of *civic environmentalism* and *ICT practices*—but also because their studies, set in the People's Republic of China (PRC), provides a contrasting socio-political comparison with civic-cyber space in the three Asian tiger (quasi)democracies examined in this study.[88]

Yang and Calhoun's description of the green public sphere consists of three elements: "an environmental discourse or greenspeak; publics that produce or consume greenspeak; and media used for producing and circulating greenspeak" (2007: 212). Crucially, they argue (Ibid., 212, 224-225) that 'green public sphere' activities involving, "television programs, radio programs, newspapers, magazines, leaflets, flyers, posters," are being multiplexed with ICT-practices such as email, websites, blogs and online discussions and this represents: "new [public] ways of talking about the environment."[89] The Internet has been employed by Chinese environmentalists, suggests Yang and Calhoun (Ibid., 223), primarily for networking via: web sites, environmental mailing lists, and bulletin boards, or public web forums.[90] Electronic mailing (e-mail) lists have also been used both as strategic campaign tools and for information dissemination—primarily because: "these have the advantage of fostering free discussions within bounded circles of people scattered in different parts of the country, which may

[87] Importantly Castells also suggests, "the public sphere is not just the media or the socio-spatial sites of public interaction. It is the cultural/informational repository of the ideas and projects that feed public debate. It is through the public sphere that diverse forms of civil society enact this public debate, ultimately influencing the decisions of the state" (Ibid., 79).

[88] Although civic-cyber environmental issues in this investigation's tiger city settings clearly feature distinct contexts from those in the People's Republic of China (PRC) (e.g. institutional, socio-political, legal, economic, spatial, etcetera)—the 'rise of the green public sphere' in the PRC that Calhoun and Yang (2007: 211) discuss remains of interest for comparative purposes. This includes the notable regional influence (particularly in the Hong Kong case) that socio-political, developmental and environmental issues in the P.R.C. have; as well as growing Asian regional linkages between environmentalism and social justice movements.

[89] ICT practices by civic environmentalists have—as Yang and Calhoun (2007) identify in their work (also see: Yang 2010)—contributed to a seemingly expanded discursive public sphere, including the formation of soft forms of civic environmentalism even in a setting where controls on civil society and associational life have, at times, been stifling.

[90] Yang's work has also focused on the relatively rapid uptake of ICTs by Chinese civic associations, including a 2003-04 survey of urban civic associations (n=129), which included 16 environmental groups (Ibid., 125, 133). In that study Yang (2007) found the frequency of uses of variou network services were distributed as follows: emails (95.5%); search engines (58.9%); home pages (47.7%); electronic newsletters (25%); bulletin board services (BBS) (14.3%) and video conferencing (2.7%) (Ibid., 133). Yang (Ibid., 142) concludes that the Internet: "is most useful for publicity, information dissemination and networking with peer and international organizations," and that rather than simply being a utilitarian tool that it provides, "a strategic opportunity for [civic associations'] organizational growth."

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otherwise be hard to sustain due to both political and financial limits" (Ibid., 224).Yang and Calhoun found that publications and discussion forums on environmental web sites (including NGOs, state-sponsored and personal sites) indicate that, "the circulation of discourse among environmental NGOs is vigorous" (Ibid., 225).[91] Web forums foster green discourse; provide spaces for personal expression and debate; and potentially produce or channel opposition about environmental issues, including sparking interest in 'traditional' media about such concerns (Ibid., 228). Yang and Calhoun's work on the green public sphere—particular its digital components—begs the question *how do changes in the green public sphere compare amongst the seemingly distinct civic-cyber settings of Hong Kong, Singapore and Taipei?*

c) Cyberactivism. The literature on cyberactivism suggests that physical and virtual environmental forms of activism are not mutually exclusively practices—and often by necessity they feature a blend of grounded and virtual, or multiplexed practices (Pickerill 2003: 169-175; Rogers 2003: 123-134). The research literature has also identified the importance of ICT-linked practices (or its potential) for public mobilization particularly when deployed by under-resourced as well as very small civic groups (e.g. Warkentin 2000; Pickerill 2003; Horton 2004; Shulman et al., 2005; Castells et al., 2007). For example, Pickerill's study (2003) of computer-mediated communications amongst U.K.-based local environmental activists examines how environmental groups employ ICTs for: i) meeting on and offline goals; ii) localizing information control whilst providing affordability, speed and global reach; iii) reducing political containment; iv) strengthening traditional networks and movement cohesion or mobilization; v) extending activist tactics; and vi) for rapid, frequent and spontaneous communications (Ibid., 171).

Castells' work on the network society also has touched upon on environmentalism,[92] green culture and ICTs role in urban sustainability (1997: 110-133; 2000).[93] Relevant to this investigation, Castells posits that the environmental movement can be characterized as: "a new form of decentralized, multiform, network-oriented, pervasive social movement" (1997: 112).[94] Castells and his colleagues' (2007) more recent work on, '*mobile civil society'* also found that ICTs employed for mobility—mobile telephony and personal digital assistants (PDA)—potentially can support both alternative media framings and socio-political mobilization

[91] Calhoun and Yang's research identifies environmental NGOs as key 'non-partisan advocacy' sites in an 'associational revolution' and in the formation of 'discourse-producing publics' underway in the P.R.C. (2007: 217, 219).

[92] Castells (1997: 112) defines environmentalism as: "all forms of collective behavior that, in their discourse and in their practice, aim at correcting destructive forms of relationship between human action and its natural environment, in opposition to the prevailing structural and institutional logic."

[93] Four 'fundamental challenges' that Castells (1997: 123-128) identifies in environmental movement discourses—and prescient to this investigation—includes: a) t*he paradoxical aspects of relations between environmentalism and science and technology*—'the science of life versus life under science'; b) *struggles about space and locality*—'local control over place versus an uncontrollable space of flows'; c) *distinct temporal worldviews*—the 'glacial time versus annihilation of time', and 'slavery to clock time'; and d) *green countercultural currents involving a collective 'species'-centric identity*—'green culture versus real virtuality' (Ibid., 127).

[94] Mulvihill (2009) corroborates this characterization by contrasting between 'traditional' environmentalism—which he suggests was 'crisis-driven', 'essentialist', 'uncompromising', insular, and a largely western-influenced movement with singularly strident 'utopian visions'—to forms of contemporary environmentalism that are globally diverse, dispersed, decentralized, involving strategic alliances (in other spheres of civil society), and draw-upon a range of 'heterotopian visions' (Ibid., 504-505).

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(Castells et al., 2007: 209). This multiplexing of Internet and peer-to-peer wireless networks, they suggest, creates novel 'mass self-communication' spaces (Ibid., 2007: 248).[95] ICTs role in social mobilization arguably played a role in linking both virtual and physical dissent in public civic spaces during the 2011 Middle East and North Africa (MENA) revolutions and the '*Acampadas*' / 'Occupy' movements (Castells 2011). In what Castells (2011) terms as *'Wikicampadas*'—referring to the Madrid and Barcelona temporary physical occupations of urban public spaces by *Acampadas* frequently employing ICTs (in North America referred to as the 'Occupy movement')—he observes the process of an, 'emerging civil society,' featuring distinctive forms of: 'organization, participation and mobilization.' Such multiplexed and mass personal (do-it-yourself [DIY] mediation) activism illustrates the multiplexed uses of mobile ICTs, including wireless networks, potentially bypassing state (or corporate) controls whilst enabling g/local alliance formations that are able to: 'scale-up from personal life to social concerns' (Castells et al., 2007: 209, 211).[96]

Pickerill's research (2003)—similar to Bach and Stark's and Sassen's observations— suggests that ICTs have altered the very nature of environmental organizations because they have enabled g/local interconnections at the grassroots level; and these tools have afforded novel means of mediation, including communicating with adversaries.[97] Pickerill (Ibid., 19) identifies a repertoire of digital 'tactical tools' including: 'lobbying'; 'broadcasting live video, photographs or text direct from offline protests,' 'creating unofficial websites,' or 'agit-prop'; using hacktivism and electronic civil disobedience;' as well as employing online 'political symbolism.' Her more recent work (Pickerill 2006) on ICT practices in the alternative globalization movement suggests that despite limitations—such as internal technical hierarchy formations, and exclusionary appearances—that reflexive uses of technologies has been occurring, and that ICTs potentially 'provide a space within which to build a radical politics' (also see Juris 2008). Finally, despite the potential for ICTs to re-shape environmental organizational mobilizing, information mediation and activist tactics (Ibid., 129-131, 174), Pickerill has identified a number of key challenges, including: unequal access; associational logistical capacity; adversaries' practices; and 'discrimination, inequality and politics' (Ibid.,170). One of these challenges might be thought of as an ongoing dilemma between 'clicktivism' (virtual activism), versus street level and face-to-face activism and projects. Such dilemmas are featured as a part of the critiques found in the discussion on 'civic cyberspaces of hope,' later in this Chapter.

In order to encompass the analytical needs identified above, two sets of comparative criteria—in the form of 'query-criteria'—will assist in gauging how tiger city civic associational ICT-linked

[95] 'Mass' are the fused networks, while 'self' refers to: "self-generated in content, self-directed in emission, and self-selected in reception by many that communicate with many" (Castells et al., 2007: 248).

[96] Spontaneous mobilization can draw-upon the network effects of, "many-to-many and on-to-one horizontal communication channels" (Castells et al., 2007: 209), including wireless / WIFI network and device supported instant messaging and micro-reporting, as well as blogging. Blended 'multi-modality'—using audio, video or text messaging—can, according to Castells et al., complement immobile Internet mediation without the constraints of 'traditional media' (Ibid., 212-13).

[97] Her work (2003: 172-175) identifies four concerns or problems that cyber-environmental groups can face in strategically employing ICTs. These include: i) conflicts between principles and practices (in choosing to employ / deploy ICTs); ii) concerns with corporatization and state involvement; iii) the continuing importance of offline, local and trans-local public spheres; and iv) how ICTs may privilege 'informal, non-hierarchical, flexible and often radical' groups.

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practices may be supporting public sphere reconfigurations (PSR), and cyber activism (CA). These two query-criteria include:

- ***Public Sphere Reconfigurations (PSR)***
  Has civic-cyber society employed ICTs for enabling forms of the 'new global' or 'green public' sphere? (Castells 2008; Yang & Calhoun 2007);

- ***Cyberactivism [CA]***
  To what extent are civic-cyber groups employing ICTs to form counterpower mobilizations and/or employ a range of cyberactivist tactics? (Pickerill 2003);

An info-sociational approach for studying co-evolving ICTs and associations has highlighted the importance of both organizational and participatory practices; however, it has not yet identified the spatial ramifications of these transformations. The next section examines the importance of gauging ICT-linked spatial practices in the info-sociational model.

3.2.2.3 Civic associations' ICT-linked spatial practices

Transformations in spatial practices represent the third element of the civic associational component in the info-sociational model. Such transformations include ICT-related changes in perceptions and conceptions of civic associational 'spatial scale' and the 'geographic reach' of digital practices. Spatial transformations refers to hypothetical ICT-linked shifts in associational scales of geographic practice and alliance formations beyond an exclusively local or community scope—what were termed *multiscalar* practices, earlier in the Chapter.

In this investigation it is suggested that civic associations—with their varied ICT practices—are re-territorializing spatial practices in a polycentric manner both within their city-spaces and beyond, as they operate via multiplexed digital media. Multiscalar practices extend to g/local networked alliances. In addition, critical theorists also suggest that scalar and temporal oscillations are indicative of the growing urban social polarizations inside global city-regions (e.g. Swyngedouw, 2000: 69; Graham & Marvin 2001). Lai (2004: 51-56), for example, questions whether the economic divides—now evident in 'affluent' East Asian global cities—can actually be challenged by nascent forms of cyberactivsm or e-democracy. Spatial transformations also suggest potentialities for tapping into a widened array of models, memes and ideas as well as building digital horizontal civic alliances or 'communities of practice' and 'civic intelligence' (Horton 2004; Sassen 2005; Schuler 2001). In this investigation two distinct types of spatial practices that are examined in the info-sociational model include: *global-local spatial transformations* and *associational alliance formations*.

Global-local spatial transformations (GLST), involves ICT-related shifts in the geographic scale or territory of civic associational practices, including altered grounded and virtual spatial-temporal

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perceptions, conceptions and everyday lived experiences (Sassen 2004, 2005; Laguerre 2005).[98] GLST can be understood as both ICT-linked scale shifting *effects* and a possible *strategy*—potentially involving changes in civic associational scales or scope of operations, mediation and networking. ICT-linked spatial transformations also suggest a distinct 'geographic gaze' in the shift to virtual, mobile and world-wide audiences, publicity, (re)mediation and mobilization associated with the Internet or social media—and ICTs in general.[99] Such transformations, as the literature suggests, can involve altered grounded and virtual spatial-temporal perceptions, conceptions and actualized spatial practices (Rogers 2003).[100] Hong Kong, Singapore and Taipei—as networked global cities—provide important comparisons of how g/local associational activism may be drawing in and upon cities as agglomerative bases for digital communication and as media multiplication power points (Yeung 2000; Lai 2004a,b; Graham 2004: 19). Associations and activists in global cities are employing diverse digital *tools, tactics* and *techniques* to project their issues at various scales, such as the use of geographic information systems—as the case studies will further demonstrate. Civic associational practices also draw-upon dense pre-existing social networks inside global cities that when combined with ICTs: 'localizes global civil society in people's lives' (Sassen 2004: 651).

Associational alliance formations (AAF), represents ICT-supported multiscalar alliances and network formations. This involves civic associations working with others within their city, their (bio)region, or beyond—including other civic associations, movements or activists; as well as potentially with state or market groups. ICTs may assist civic associations in informal or formal alliance formations, such as: *collaborative alliances* (solidarity, affinity, mutual support, joint actions, etcetera); *resource-sharing* (ideational, voluntary, staffing, technical and financial, etcetera); *knowledge exchanges* (partnerships, campaigning, lobbying, popular/community education, workshops, etcetera); *communities of practice* (shared ideals and ideas); and *extra-local campaigning or projects* ('boomerang strategies,' g/local campaigns, media tactics, etcetera) (Keck & Sikkink 1998; Gurstein 2001, 2007; Sassen 2001, 2004, 2005; Laguerre 2005; Day & Schuler 2006). Scalar hierarchies and a fixity of scale, Sassen suggests, may be overcome through inter- and intra-city civic association digital collaborations and networks, "engaged in similar localized struggles with similar local actors" (2005: 80).[101] Sassen adds that: "the technologies, institutions, and imaginaries that mark the current digital context inscribe local political practice with new global meanings and new potentialities" (Ibid., 78). ICTs importantly also enable new *possibilities* for forming alliances with(in) materially poor communities to

[98] These transformations also illustrate the influence of civic associations—as non-state actors—in multi-scalar environmental governance, including in: activism, lobbying, education and partnerships (e.g. Lipschutz 1996; Gould et al., 1996; Lai 2004a; Lai 2004b: 95).

[99] For example, Hjorth (2009: 151-187) adopts reterritorialization as a conceptual frame in studying of how Hong Kongers utilize mobility technologies to construct new forms of cyber-cultural identity and 'imagined communities' inside the perpetually-morphing global digital city. Such possibilities remind us to review the cases not only examining critical threats from ICTs, but also critical *possibilities* for social transformation.

[100] For example, ICTs role in time-space compression (Harvey 2000) or time-space telescoping has a complex set of implications for organizations including altering the networked time and spaces of the digital city (Laguerre 2005; Crang 2007).

[101] Here the literature suggests that ICT uses appear to be extending or augmenting individual concerns and helping to create novel horizontal or local digital alliances; as well building virtual vertical alliances and global networks (Pickerill 2003; Sassen 2004, 2005; Marres 2011).

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address localized environmental justice threats (Shulman et al., 2005) and by employing what Schuler (2001) refers to as 'civic intelligence,' as forms of local knowledge shared g/locally and digitally.[102]

Two particular themes in the research literature—the first focused on ICT-linked global-local scalar transformations; and the second, focused on communities of practice and civic intelligence—will further contribute to devising an analytics for civic associations' spatial practices, as outlined below:

a) Global-local spatial transformations. A key thrust of Sassen's studies (2002; 2004; 2005) involves theorizing about how ICTs enable geographical scalar transformations for civic groups when, "particular instantiations of the local can actually be constituted at multiple scales and thereby construct global formations that tend toward lateralized and horizontal networks" (Sassen 2005: 73). 'The local as multiscalar' (Ibid.) is, in Sassen's estimation, tied to ICT-linked transformations in urban civil society.[103] The importance of these multi- or polycentric civic-cyber scales of practice—particularly in global cities—Sassen argues, is their role as staging grounds for a new politics: "one that runs through localities and is not predicated on the existence of global institutions" (2005: 73). Sassen's work also underlines the importance of how affordable ICT uses enhance micro-politics and scalar reach via networked, "micro-environments with global span" (Sassen 2004: 655).[104] In this process what is exciting to activists and potentially transformative is that, "a community of practice can emerge that creates multiple lateral, horizontal communications, collaborations, solidarities and supports" (Ibid.). These global-local (g/local) shifts may be seen as analogous to Keck and Sikkink's (1992), 'boomerang effect'[105]—that is civic cyberspaces where non-local advocacy networks are tapped in hopes of altering a local situation. In this regard, Sassen (2004: 655) also suggests that ICT-linked 'communities of practice' with global reach 'can enable local political or non-political actors to enter into cross-border politics.'

Another perspective from Sassen's research is that global cities are magnetic nexus of physical and virtual networking—both in a socio-economic sense, and of key interest here, for civil

[102] As the literature suggested, digital environmental justice alliances can focus on the 'double exposure,' (O'Brien & Leichenko 2000) of poverty and pollution—including public health and local air, water and soil pollution (Wapner & Matthew 2009: 215-218)—despite the many roadblocks to effective ICT use for environmental justice alliances, noted by Shulman et al. (2005: 504).

[103] This concept has similarities Laguerre's (2005) suggestion that, "digitization transforms both the spatial and temporal parameters of urbanites, introduces a flexible regime of practices, and virtually reterritorializes spheres of social action to include the sites that have until recently been unreachable because of the lack of connectivity" (Ibid., 171).With daily practices as potentially global in scope, Laguerre claims that, "the digital city globalizes, pluralizes, and rehierachizes aspects of urban social action" (2005: 2).

[104] Regarding affordability, Sassen (2004: 655) suggests that, "technical connectivity links even resource-poor organizations with other similar local entities in neighbourhoods and cities in other countries."

[105] Margaret Keck (2004), in elaborating on her earlier co-authored work (Keck & Sikkink 1998) describes 'boomerang patterns' in transnational activist or advocacy network activities: "This is used when the citizens of a particular country, because of repression or their own weakness, are unable to influence the government of their own country, and join with an advocacy network. Members of this network then work to convince an international organization or a third party state to put pressure on the target state, either to correct abuses or to give its own citizens a hearing. The boomerang occurs when activists reach outside their own countries to gather strength to influence domestic politics" (Keck 2004: 52).

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society actors and activism (Sassen 2001; 2004; 2005; Taylor 2004).[106] As typically diverse cross-(or sub) cultural 'creative media centres,' dense global city spaces and their socio-technical networks provide fertile environments for experimental digital associations and activisms including: intermodal public forums; event-driven communities such as 'smart mobs'; digital storytelling; cyberactivism or collaborative commons efforts.[107] This combination of pre-existing local social networks and ICT networking, has, Sassen suggests, altered the very nature of civil society inside global cities.[108] To Sassen (2005: 75-76), ICTs have deepened the potentialities of local activists to tap into 'powerful imaginaries' and to explore or share novel tactics and memes.[109] Finally, Sassen (2004: 662) highlights an important need—that this investigation also emphasizes—for studying how ICTs are actually altering *local civil society practices* rather than simply focusing on their global networking practices.[110] How ICTs potentially support affordable new mediation, activist models and organizational 'formations' (Sassen 2002: 367; 2004: 656-657), thus remains crucial in any comparative analysis of civic associations—including novel 'digital formations' (Sassen 2005: 55).[111] How and why such ICT-driven practices and formations may be tied to spatial planning, land use and environmental issues is of particular interest in an info-sociational approach.

b) Communities of practice and 'civic intelligence.' Arguably, ICT-inspired memes, models and projects in global circulation inspires the practices of local associations—just as reciprocally, locally-generated ideas and ideals have polycentric effects beyond a city's boundaries for inspiring civic groups elsewhere. These forms of collaboration are what Schuler (2001) has referred to as forms of collaborative 'civic intelligence.' Besides the importance of examining ICTs role in civic engagement, urban community informatics scholars like Schuler have focused on the potential for community-generated ICT knowledge and praxis.[112] Schuler also describes

[106] In particular, civil society associations are located in densely networked global cities or 'thick enabling environments' (Sassen 2004: 651) where historical street level politics and movements in urban public spaces can readily blend ICT practices—like mobilizing and networking—into their action repertoires (Ibid., 655-656).

[107] For example see works by: Pickerill 2003; Gurstein 2007; De Cindio 2009.

[108] Sassen states that ICTs have 'expanded the geography for civil society actors' and supported 'a politics of places on global networks,' while dense 'political and civic cultures in large cities localizes global civil society in people's lives.' She suggests that these may be thought of as: "multiple localizations of civil society that are global in that they are part of global circuits and transboundary networks" (2004: 650,651).

[109] Also of interest here are the linked and parallel strategies between virtual and physical street activisms and civic participation. In this regard Sassen has suggested that: "in many ways, claim-making politics evident today in electronic space resonates with many of the activisms proliferating in large cities: struggles against police brutality and gentrification, for the rights of the homeless and immigrants, for the rights of gays, lesbians, and queers (2005: 82-83, note 30)."

[110] Here Sassen (2004: 662) suggests that: "Recovering how the new digital technology can serve to support local initiatives and alliances inside a locality is conceptually important given the almost exclusive emphasis in the representation of these technologies of their global scope and deployment."

[111] For example, Latham and Sassen (2005) advance the argument that e-space can support or shape socio-technical formations that, 'were not present in a given social context before' and which represent 'novel social forms' (Ibid., 1-2). They refer to digital formations as a 'mixed domain' structured in 'electronic space' and suggests that: "Interactions between digital technology and social logics can produce a third condition that is a mix of both" (Sassen 2005: 54). This has similarities to Castells' digitally mediated *multi-modality*. Sassen's (Ibid., 375) theorizing on the *historical implications* of localized ICT-linked practices in global cities, highlights the g/localizing of civic associations as an historical transformation leading to distinct formations.

[112] Michael Gurstein (2010) suggests that an urban community informatics (UCI) focuses upon: "the process of using ICTs to enable and empower *communities* in urban environments towards collaborative action." Such approaches suggests that citizens retain the requisite diversity and abilities to steer (or design) ICTs and new media applications to meet locally-desired ends.

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locally-based problem-solving that employs ICTs to generate and share 'civic intelligence' (Schuler 2001: 292).[113] Schuler suggests that 'civic intelligence'—besides involving non-profit civil society, g/local knowledge networks and ICTs—involves: "the ability of humankind to use information and communication in order to engage in collective problem solving" (Schuler 2001: 166).[114] A 'community informatics' approach suggests that rather than taking technologies as a given or predetermined forms, that instead citizens, civil society and communities needed to be involved in shaping their designs and steering ICT policy and pathways (Gurstein 2000; Day & Schuler 2004: 10). Schuler and Day (2004) have also emphasized the importance that ICT tools can play in supporting civil society practitioners, activists and citizens, including for practices such as: "preventing and recovering from environmental catastrophes, strengthening the digital commons or developing civic intelligence" (Ibid., 2004: ix). Civic intelligence therefore suggests that people who are addressing social and environmental problems—particularly civil society organizations—potentially share a 'common project' to develop the intellectual capacity and tools for addressing civic concerns (Ibid., 35-37).[115]

How spatial issues—such as global-local scales of affinity and nascent alliances focused on civic intelligence are shaping and being shaped by civic environmental associations—are of importance in the info-sociational model. Below two sets of comparative criteria-queries linked to both global-local spatial transformations (GLST) and associational alliance formations (AAF) are suggested as a means for studying ICT praxis:

- ***Global-local Spatial Transformations (GLST)***
  Do affordable ICTs enhance civic associational 'geographic scalar reach' or 'scale shifting'; and have associations used scale conscious strategizing? (Sassen 2002: 371);

- ***Associational Alliance Formations (AAF)***
  Are associations forming ICT-supported alliances and 'communities of practice', as well as shared forms of 'civic intelligence' that build-upon local or community collective knowledge? (Gurstein 2001; Schuler 2001; Sassen 2004; Horton 2004)

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[113] Schuler posits (2001: 166) that: "civic intelligence is a form of *collective* intelligence […] this type of intelligence, probably to a much higher degree than an individual's intelligence, can be improved and made more effective. And how people, create, share and act upon information is crucial to that" [emphasis his].

[114] Employing architect Christopher Alexander's concept of a 'pattern language', Schuler (2001: 169) suggests six 'patterns' that can be used for mapping and increasing civic intelligence in relation to ICT practices, including: '*orientation*' ('purpose, principles, perspectives'); '*organization*' ('structures, methods, roles'); '*engagement*' ('thought, action, social change'); *intelligence* ('multidirectional communication', 'access to information', 'discussion, deliberation & idea generating', 'monitoring', 'learning', 'experimenting', 'adapting' and 'regulating'); '*products and projects*' ('outcomes'); and *'resources'* ('support' to 'people & institutions') (Ibid., 169, 173).

[115] Schuler's (2008), *Pattern Language for Living Communication Project*, was designed to serve as a 'civic intelligence' pattern mapping approach and repository for sharing projects, practices and patterns (www.publicsphereproject.org). Such an approach suggests the importance of tracking (as well as potentially archiving) the successes or failings of civic-cyber practices and projects, including common means of overcoming challenges facing civic groups such as financial sustainability, technological viability, or ICT obsolescence (e.g. Blau 2001; Gurstein 2001: 279).

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The two spatially-linked queries identified above—alongside the previous organizational and participatory query-criteria—can serve as tools of analysis in the case studies found later in this study. The info-sociational approach proposed above consisted of a set of criteria linked the research literature and focused on six transformations including: internal and external organizational practices; reconfigurations in the public sphere and cyberactivism; global-local scalar transformations and associational alliance formations. Overall the preceding sections focused on three civic associational-centred elements in support of an info-sociational modeling. These involved *organizational, participatory and spatial* approaches for understanding civic associational transformations related to ICT practices. The final component of the info-sociational model focuses on an analysis of the key problems and the potentialities related the ICT-linked transformations underway in civic associations.

3.2.3 Critiques and potentialities: civic cyberspaces of hope

Building upon the Third Proposition, the 'civic cyberspaces of hope' component of the info-sociational model introduces a critical analytics that combines two seemingly divergent analytical paths: one focused on *critiques of ICT praxis;* and the other focused on *potentialities or hopeful possibilities related to ICT praxis*. This section therefore introduces a set of 'critical interruptions' in the formation of the info-sociational model presented up until this point in the Chapter. These critiques and transformative potentialities linked to ICT practices can be understood as forms of dissonant analytics, akin to Soja's (1996) intentionally disruptive 'critical thirding'—and as a suggested means of 'rethinking and re-evaluation' of theoretical puzzles (Ibid., 5, 81).

Rather than being whimsical or contrarian attacks, the critiques and potentialities identified in this section are intended to serve two pragmatic aims. The first aim involves the need for a *critical analytics* embedding reflections about ICT practices, including potential problems in their civic associational uses, as well as potential limitations in studying these uses. For example, some environmentalists have expressed skepticism about the transformative possibilities of ICTs and indeed may, on the whole, question their merits or necessity (e.g. Shutkin 2000: 241). Such techno-critiques or technological tensions not only relate to commercial or consumptive impacts, or possible threats to emergent civil-cyber associations—such as forms of state-corporate surveillance—they also identify concerns that ICT saturation and over-dependencies can disconnect active citizens and environmentalists from their natural environs and their civic responsibilities (Burt & Taylor 2003; 120-121; Pickerill 2003: 36-57). Such critiques pose important reflective challenges for analyses of ICT practices in civic associations and they identify possible validity threats and weaknesses when applying an info-sociational model in empirical analyses. Critiques of ICT praxis identify important caveats in 'reading' the case narratives (or research findings). Therefore, rather than being stated as 'limitations' of an info-sociational model—as if somehow external from the analytical approach employed here—the critiques presented below are *conceptually embedded or activated* within the info-sociational model.

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The second aim of this section suggests a need for a *hopeful analytics* for tracing ICT potentialities or idealistic possibilities in urban civic spaces. Whether Sassen's concept of the novel 'potentialities' or 'imaginaries' enabled via mixed digital-physical networks in global cities (2005: 78); or Castells' identification of networked 'counterpower,' and multiplexed mobilizations such as the *Wikicampadas* movement (2008: 258, 2011); or Schuler's concept of 'civic intelligence' (2001) and the importance of local shared knowledge applied to practical problems—an info-sociational model needs to be capable of detecting and discussing *ideals* and *ideas* in relation to changing civic-cyber practices.

Together the two approaches identified above suggest the possibility of 'civic cyberspaces of hope'—a variant on Harvey's (2000) 'spaces of hope.'[116] Overall this dual approach suggests that ideals and ideas about ICT practices need to be tempered with embedded checks and balances—referred to here as *critical hope.* The hope envisioned, then, is not a sheltered or a false hope, but rather a hope stemming from critical thinking and analyses.[117] This also suggests that without an assessment of the limitations and problematic aspects of ICT-linked praxis—either reflexively in the 'text and talk' of civic associations, or in researcher analyses—that the stand-alone idealism in 'cyberspaces of hope' or 'information utopics' (Juris 2008) could potentially ignore or underestimate the socio-political, socio-technological, environmental or economic consequences of ICT practices. Thus, while *idealistic or hopeful potentialities* are held as being important in examining info-sociations—this needs to be tempered with *critical interpretations* of ICT practices.

The first three sections identified below are respectively tied to the ICT-linked critiques of organizational, participatory and spatial practices in the info-sociational model. These help to shape a complementary critical analytics of civic-cyber associational practices. The final fourth section below builds on these critiques and elaborates upon the concept of 'cyberspaces of hope' in order to help understand how ICT praxis might present potentialities or possibilities for civic associations.

a) Do ICT practices help civic associations meet their organizational goals?

The research literature identifies a number of key critiques of ICT-linked organizational practices for inclusion in a 'critical hope' analytics. Four notable critiques have identified a range of threats in relation to organizations' ICT practices, such as:

- overlooking or underestimating the importance of offline social networks and longstanding face-to-face contacts (Evans 2004: 145-147,168-176);
- the role of ICTs in altering personal, familial, civic associational and community spatio-temporal rhythms (e.g. 'telecommuting' & 'cyberweek' reconfigurations) (Castells 1996: 464-468; Harvey 2000; Laguerre 2005; Crang 2007);

[116] 'Civic cyberspaces and critical hope' is an adaptation of critical geographer David Harvey's (2000) work, *Spaces of Hope.* Harvey's influential work has forcefully argued for reinvigorated utopian spatial thought as an approach for addressing class and spatial injustices—and as a counter-agenda to dominant neoliberal and 'free market-utopianism'.

[117] 'Critical hope', as suggested here represents two inflections of the adjective 'critical' which derives from the Greek, *krites*, 'to judge' (OED, 1986:172). One inflection suggests the importance of retaining, enhancing and fostering 'critical' faculties, as in critical thinking, critique, and critical analysis. The second inflection evokes 'criticality' as in the crucial need or *importance* of hope or optimism.

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- analysis that overemphasizes ICT consumption and 'clicktivism' or addictive social (re)mediation—versus grounded, critical, civic activist commitments (Day & Schuler 2004: 5; 9-10; Dean 2010; Tatarchevskiy 2010);
- the problems with concentrating control amongst a relative handful of ICT-savvy insiders or 'supernodes' both inside and outside of civic associations (Weber 2005; King 2006).

For example, Evans (2004) argues that the supply-oriented 'hegemonic hype' of the IT or ICT industry and digital 'boosterism' by governments (including e-participation exercises [Ibid.,10, 23-25, 95]) can downplay the crucial importance of pre-existing trust, place and situated knowledge in physical communities. She suggests that claims about the transformative potential of ICTs: "underplays the mundane reality of much Internet use" (Ibid., 47). Her work also challenges Castells' (and others) claims about the significance of virtual communities and the network society's influences on social relationships, place and the scale of affiliations (Evans 2004: 106-107; 175).[118] For instance, Evans (Ibid., 168-176) posits that an undue focus on ICT-linked effects can downplay face-to-face community action and pre-existing social networks. She also warns how the trope of information technology boosterism—positing IT or ICTs as, 'the saviour of economy, society and community'—can overlook their socio-economic and ecological externalities; and she also questions who financially gains the most from their promotion and uptake (Ibid., 24-26).[119]

An equally critical threat to civic life is embedded in Dean's (2010) critique that networked media insidiously 'configures' its users and undermines grounded organizing tactics, making it: "easier to set up a new blog than it is to undertake the ground-level organizational work of building alternatives" (Ibid., 124-125). Dean's criticisms identify that new media's addictive and distractive qualities can undermine the 'planning, discipline, sacrifice, and delay' crucially necessary for ongoing or long-term civic activism (Ibid., 125). 'Clicktivism' and the digital 'politics of convenience' represent the emergent organizational norms that her powerful critiques focus on (Ibid., 79). Tatarchevskiy (2010) also warns that an overreliance on ICTs by civic associations can serve to undermine the 'traditional' grassroots voluntary and critical thinking processes that have shaped the core constituencies of these non-profit groups.[120]

[118] For example, summarizing her findings on the social impacts of ICTs, Evans (2004: 47, 175-176) argues that: "these technologies are used less as tools to launch innovative practices and new social networks, but more often to aid established ways of working and, where relevant, to deepen existing organisational and social ties. These ties are already formed in physical spaces, their codes and interests embedded in ways of being which have existed prior to the advent of electronic communication. As a result they reflect these pre-existing practices and structures and, in general, the Internet is used to further communicate, rather than to subvert, them" (Ibid., 47).

[119] Drawing from studies of ICT use in local community associations, her critique, focuses not only corporate or state 'ICT champions,' but also on the findings of sociological and informatics scholars, including for example, Manuel Castells, Barry Wellman and Douglas Schuler (Evans 2004: 28,38,68 & 148).

[120] Tatarchevskiy (2010) cites examples from online marketing campaigns as contributing to passiveness amongst associational volunteers (Ibid. 12).

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In sum, a number of key concerns have been identified by scholars in relation to organizational practice for inclusion in a 'critical hope' analytics of info-sociations. Two query-criteria for inclusion in the info-sociational model suggested here include:

- *Are civic associations overlooking the importance of offline social networks and face-to-face contacts?* (Evans 2004: 145-147,168-176)*;*

- *Are civic associations concentrating control amongst a relative handful of ICT-savvy insiders or 'supernodes' both inside and outside of civic associations?* (Weber 2005; King 2006)*.*

The next set of critical considerations in the info-sociational model touches upon the sometimes hyped potential of ICTs in relation to civic participatory practices.

b) Are the ICT practices of civic associations deepening civic participation?

A number of key concerns have been identified by scholars in relation to ICT-linked participatory practices. Five notable critiques include how ICTs might potential:

- threaten cyber-participation and civic activism through state-corporate monitoring (Graham & Marvin 1996: 240-276; Deleuze 2004; Cauter 2004; Feenberg & Bkardjieva 2004: 22; Castells et al., 2007: 119; Crang & Graham 2007: 798-805; Foster & McChesney 2011);
- ease tracking (or privacy infringements) of movement activists—including their locations, networks, intentions, plans or actions (Dean 2010: 65, 124-125);
- commercialize the public (cyber)sphere, appropriate civic life and politics; and erode critical discourses including grassroots activism inside civic groups (Poster 1997; Sudweeks & Ess 2002; Dean et al., 2006; Cammaerts 2008: 372; Dean 2010; Tatarchevskiy 2010);
- undervalue slow democratic deliberations, careful reflection, process-oriented engagement and constructive dissent—in favor of short-term social media logics and online public relations or spin (Laguerre 2005: 121-122; Crang 2007: 75; Dean 2010: 124-125);[121]
- shift control of knowledge exchanges to a handful of dominant hardware or software market players—thus raising concerns about fairness and democratic accountability, including control over public interest ICT goods and public assets (Graham & Marvin 1996; 2001; Evans 2004: 24-26; Foster & McChesney 2011).

Related to these arguments about problematic influences in ICT participatory practices some scholars have also identified the potential overarching threat of 'computer-mediated colonization' of civic cyber-spaces (Sudweeks & Ess, 2002). For example, Cammaerts (2008)

[121] Also notable are the wide-ranging, at times techno-utopian, claims about 'electronic democracy' (e.g. as noted in Bryan et al., 1998: 6-8).

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identifies commodification concerns in social media, suggesting that rather than improving public participation we may be witnessing the: "appropriation of the blogosphere by elites as a marketing instrument" (Ibid., 372; also see: Tatarchevskiy 2010: 12). Similar concerns have also focused on ICT-linked surveillance, securitization and threats of totalizing forms of socio-technical control in workplaces, homes and public spaces (Cauter 2004; Crang & Graham 2007: 798-805; Deleuze 2004: 73-77).[122]

Dean (2010: 65, 124-125) suggests that 'communicative capitalism,' "increases the exposure and vulnerability of those engaged in active protest and resistance on the ground." Similarly, Castells argues, at stake for civil-cyber society, is the diminution of digital freedoms through monitoring, policing and 'ubiquitous surveillance' (Castells et al., 2007: 119; 2007: 258-259). Castells (2008: 258) suggests that ICT practices are part of the broader historical struggles between power *and counterpower*—particularly as: "dominant elites are confronted by the social movements, individual autonomy projects, and insurgent politics" (Also see Graham & Marvin 1996: 240-276). In addition, Warkentin (2003: 11-12) identifies the problems with western-centric norms and notions of participatory civil-cyber society being transposed into locations where little or no local socio-cultural context is understood or explained (also see: Lai 2004a). To reiterate, a number of key issues have been identified in relation to civic associational digital participatory practices for inclusion in a 'critical hope' analytics. In conjunction with these critiques, two queries for inclusion in the info-sociational model can be stated as follows:

- *Are ICT practices in civic associations undervaluing slow democratic deliberations including careful reflection, process-oriented engagement and constructive dissent?* (Laguerre 2005: 121-122; Crang 2007: 75; Dean 2010: 124-125);[123]
- *Are current civic associational practices overemphasizing ICT consumption and 'clicktivism' or addictive social (re)mediation—versus grounded, critical, civic activist commitments?* (Day & Schuler 2004: 5; 9-10; Dean 2010; Tatarchevskiy 2010).

The final set of critical considerations in an info-sociational approach touches upon the spatial challenges of employing ICTs and is elaborated in the discussion that follows.

c) Can the ICT practices of civic associations ameliorate urban spatial problems?

The research literature has highlighted a number of critical issues linking ICTs uses and spatial problems. These include the need to identify, examine or scrutinize ICTs possible role in:

[122] For example this recently became an issue in the context of Hong Kong (Tsang 2011) when CCTV surveillance cameras were 'temporarily' placed outside the former Hong Kong SAR Legislative Council (Legco) buildings without any prior announcement or notice that they existed. Their purpose according to a media report was, "aimed at the proper management of public order outside of Legco" (Ibid.).

[123] Also notable are the wide-ranging, at times techno-utopian, claims about 'electronic democracy' (Bryan et al., 1998: 6-8).

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- deepening socio-economic divides and digital marginalization, including reinforcing existing structural and spatial divides inside city-regions (Graham & Marvin 2001; Graham 2004: 20; Cauter 2004);
- channeling investments into privatized, capsular and hyper-secured urban enclaves for work, shopping, play or living—rather than into public, open, diverse, mixed, livable and convivial civic spaces (e.g. Pickerill 2003: 36-57; Cauter 2004; Shutkin 2000: 241);
- contributing to the exploitation of citizen-workers via sophisticated e-monitoring in contracted and secured e-manufacturing zones or info-servicing facilities (Poster 2004; Foster & McChesney 2011);
- facilitating the '24/7' home invasion of net-workplaces; and reinforcing power asymmetries (or exploitation) inside organizations (Castells 1996: 243-244; Poster 2004: 88-90; Laguerre 2005; Crang 2007);
- creating novel types of worker health risks and workplace or environmental risks throughout ICTs product life-cycle—from early supply chain stages through to product obsolescence (Graham 2004: 17; Jiang 2009; Tu & Lee 2009; Chan 2010).

For example, Graham & Marvin's (2001) research has identified the dangers of differentiated urban (un)realities between the haves and have-nots being shaped by asymmetrical infrastructural and informational endowments (also see: Graham 2004: 20). Heterogeneity in civic environmentalists' info-sociational practices also raises questions about whether civic ICT uses in global cities is actually altering the 'production' of urban spaces—both physically and virtually—including the perception and conception of these spaces (Rogers 2003). In these critiques ICTs can serve to divide distinct physical and virtual realities amongst urban citizens. Digital differentiations may also entrench consumptive spaces over civic spaces—thereby disconnecting people from fellow citizens, publicly accessible spaces and nature (Graham & Marvin's 2001; Graham 2004: 20; Cauter 2004). On the other hand, Laguerre's research (2005), suggests some caution is needed in correlating pre-existing socio-economic asymmetries with emergent 'digital city' divides and that these two types of divides may not necessarily be co-located.[124]

The techno-optimist promise of ICTs reducing the exploitation of the human body (or the environment) in the workplace also reveals contradictions. In tandem with globalization processes, ICT manufacturing has frequently been taking place either in low wage production or special economic zones (i.e. e-machiadoras);[125] as well as in ICT-mediated info-production and 24/7 services venues, ICT data processing centres or data warehouses, as well as secured contracted service and call centres (Poster 2004; Foster & McChesney 2011).[126] Amongst these

[124] For instance, Laguerre (2005: xiii) finds that digital marginalization, "comes about as a result of the divide between the connected and the unconnected which is not the same thing as the divide between the rich and the poor."

[125] For example, labour rights campaigns organized by the Hong Kong-based SACOM (a human and labour rights non-profit association) has included a focus on the fate of IT manufacturing workers in the Shenzhen Special Economic Zone, adjacent to the Hong Kong Special Administrative Region and elsewhere in the People's Republic of China (Chan 2010).

[126] Da Ramini (2010) terms the vast constellation of ICT service related workers in virtual or ICT-linked places and spaces *'the flexitariat',* essentially suggesting a flex-time info-version of the 'proletariat.'

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concerns about ICT-linked spatial practices in civic associations, one key query-criterion for inclusion in the info-sociational model can be stated as follows:

- *Are ICTs facilitating a '24/7' home(work) invasion, thereby reinforcing power asymmetries (or exploitation) inside organizations and changing the civic workweek (to a cyber workweek)?* (Castells 1996: 243-244; Laguerre 2005; Crang 2007).

To recapitulate, the three critical hope perspectives identified above have drawn upon a diverse set of research in order to identify *potentially problematic directions or trajectories* related to ICT-linked practices in civic associations. As counterfactuals these critiques serve as 'what-if' warnings of possible future ICT path dependencies, or if unabated, as possible 'worst case' scenarios. These critiques were designed to augment the troika of ICT-linked—organizational, participatory and spatial—transformations in practices which were a central component of the info-sociational model. But besides critical analyses and questioning of and about the ICT practices of civic environmentalists, there remains a need to assess how and why civic associations are actually devising or actualizing proactive ICT-linked counterplans or counterstrategies. Some of these strategies may in fact seek to address the types of risks and concerns noted above. Such alternative ideals and potentialities for ICT praxis will be the focus of the next section.

d) Cyberspaces of hope

The critiques examined above have identified the fallacies of viewing ICTs practices as simply panaceas for improving civic activism or democratic engagement; or seeing such practices as cure-alls for the complex socio-economic, livability, social justice and governance issues facing global cities. Despite the 'shadow' or problematic sides potentially linked with ICT practices, civic associations can arguably steer or shape the fate of ICT designs, configurations and applications, including their regulation. It is these alternative ICT-linked ideals which represent the possibilities and potentialities suggested in an analytics for a 'cyberspaces of hope,' as partially devised in the last Chapter of this investigation.

That civic associations might embed some of their ideals in their ICT praxis aligns with one of this investigation's key premises—that ICTs are socio-technical constructs which are dynamically being shaped by, and shaping of, civic associational micro-practices. If info-sociations are co-constituted in socio-technical assemblages—that are 'located in' and 'produced by' (cyber)spaces—it can also be argued that 'cyberspaces of hope' may be embedded in emergent digital civic formations, movements and counterpublic ideals. This includes the potential for envisioning digital counterspaces, or even digital countercultures, including temporary autonomous digital communities and identity politics—as other scholars have suggested, including in an Asian urban context (Juris 2007; Kuang 2009; Da Ramini 2010; Castells 2011; Lam & Ip 2011).

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Working with Lefebvre's theory-frame, critical planner-geographer Edward Soja has referred to counterspaces as 'Thirdspace,' or an open 'possibilities machine' (1996: 81) that represents: "some form of emancipatory *praxis*, the translation of knowledge into action in a conscious—and consciously spatial—effort to improve the world in some way" (Ibid., 22).[127] Counterspaces, or Thirdspace includes 'real-and-imagined places,' Soja argues (1996: 11), and they invoke: 'spaces of social struggle,' and, 'spaces of resistance to the dominant order,' and: "chosen spaces for struggle, liberation, emancipation" (Ibid., 68). These spatial theories have practical relevance for this investigation's info-sociational model because of the conceptual inclusiveness of multiplexed (virtual-physical) spaces connected to civic-cyber practices and networked cyberactivism (see examples in: Crampton 2003: 14; Rogers 2003).

An example of counterspaces, and in some ways cyberspaces of hope is notable in the role that ICT-networked activism played in conjunction with the civic-cyber '*Campada* / Occupy movements.' These physical and virtual encampments launched in a number of global cities throughout 2011—following the multiplexed public gatherings of the 'Arab Spring' in the Middle East and North Africa—including in Hong Kong and Taipei involved varied deliberations on ideas and ideals, such as socio-economic justice and grassroots democracy (Castells 2011).[128]

A theory-frame for studying how and why civic associations have employed ICTs in their practices also needs to examine how their co-evolution is involved in longstanding power struggles around urban civic spaces and the public sphere. How, in other words, are ICT-linked g/local associational formations articulating counterspaces, contra visions or alternative ideals? This also includes warnings about ascribing excessive utopian or overly deterministic aspirations for ICTs (e.g. Evans 2004; Graham 2004; Dean 2010).

To reiterate, the concept of 'civic cyberspaces of hope,' including the notion digital counterspaces, highlights the importance of engaging in both *critical thinking* and *civic imagining* as dual tactics in attempting to resolve seemingly intractable urban problems. This approach supports both a pragmatic analytics *and* theory-building about civic associational ICT practices, and crucially, how these digital practices may be transforming or affording opportunities for reimagining or re-envisioning civic space and its possibilities. 'Cyberspaces of hope' therefore affirms the need for an *info-sociational approach that identifies and examines nascent counterpower or counterspace formations and formats* located in relation to civic associations in particular city settings. The critical hope analytics therefore complements the associational-centred empirical analyses and comparisons of civic-cyber associational practices at sites in Hong Kong, Singapore and Taipei.

[127] Lefebvre's (1991) trialectics of spatiality are "purposefully reappropriate[d]" and interwoven into Soja's (1996: 53) parallel three part spatial typology which has as its focus, 'Thirdspace', but also includes 'Firstspace' (i.e. Lefebvre's 'perceived space' or 'spatial practices') and 'Secondspace' (i.e. Lefebvre's 'conceived space' or 'representations of space'). Similarly, in this investigation the Author employs the terms '*grounded', 'bounded' and 'imagined*' spaces to respectively cross reference both Lefebvre and Soja's trialectic typologies.

[128] The global *campada / occupy* movements have featured both physical (occupations of public spaces) and virtual (networked activism) (cyber)spatial manifestations in cities around the globe, including in Hong Kong and Taipei [notable during writing in October, 2011].

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3.3 Chapter conclusion

The point of this Chapter has been to *explore, proposition and integrate*. First, *exploring* has involved selecting from and examining connections amongst the various research literatures—or a vast 'archipelago of ideas.' The literature touched-upon a wide range of examples where ICTs—when employed by civic associations for purposes beyond administrative or internal efficiencies—have demonstrated a potential to expand or reconfigure civic space. This included transformational networked activism and imaginaries (Sassen 2004; Juris 2007; Castells 2011); new possibilities for addressing social and environmental justice (Pickerill 2004; Horton 2004; Shulman et al., 2005); or novel means for expanding the public sphere (Yang & Calhoun 2007; Crack 2008; Drache 2008; Castells 2008); and civic knowledge sharing and alliance building (Schuler 2001; Sassen 2004).

Second, *propositioning* involved devising a set of three sets of query-criteria for: examining changing civic space; analyzing ICT practices in civic associations; and indicating critiques and potentialities (critical hope) in civic association's ICT-linked activities. Such cross-cutting propositions indeed raise many questions. For example, are ICT-linked ideals or civic cyberspaces of hope actually being realized in an Asian context? Have public sphere reconfigurations been prompted by civic associational digital practices? And do civic environmental associations exhibit propensities for the cyberactivism? Or, as some have civic-cyber scholars have suggested, are ICTs enabling locally-tailored ICT activist approaches?[129] Such questions foreshadow the comparisons of changing civic-cyber space in the three tiger cities (in Chapter Four); as well as the six case studies of diverse ICT-linked practices amongst civic environmental groups in Hong Kong, Singapore and Taipei (in Chapters Five to Seven). While there is clearly evidence of a fascinating diversity of alternative civic counterspace formations, activism and ideals being realized in contemporary ICT-linked civic associational contexts in urban Asia (e.g. Yang & Calhoun 2007; Douglass et al., 2008; Lam & Ip 2011; Qiu 2011; Zheng 2011)—comparative research about the pitfalls and potentialities of civic environmental associational practices is needed, as the research gaps identified earlier. The Chapters that will follow therefore seek to provide further supporting empirical work on understanding associational level and civic space level ICT practices.

Third, and closely tied to the three research propositions (from the First Chapter), *integrating,* has involved devising a cross-cutting conceptual model that focuses on civic associational practices, but also ties in city-specific context, as well as the possibilities and pitfalls of civic-cyber praxis. Integrating also focuses on the three explicit transformations underway in civic associational ICT-linked *organizational, participatory, and spatial practices*. When applied to six diverse empirical cases—age-specific case pairs in Hong Kong, Singapore and Taipei—as the subsequent Chapters will do, the integrated info-sociational model will help to address the research questions identified at this study's onset.

[129] For example see: Lai 2004a,b; Da Rimini 2010; Lam & Ip 2011; Zheng 2011. Lai (2004a,b), for instance has identified some of the distinct strategic aspects of environment e-mobilization (including cyber campaign examples, alliance building and linked virtual and physical actions) in an Asian context. And the studies of Lam and Ip (2011) and Zheng (2011) identified the fascinating co-evolution of social movements and digital media including new forms of resistance and temporary virtual communities.

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In sum, an info-sociational model neither focuses exclusively on the social histories or human dynamics of organizations; nor singularly, on ICT-tools, platforms or practices and their technical aspects—but rather on elements of both by introducing a socio-technical mode of analysis. The info-sociational model's components elaborated in this Chapter were designed to integrate a micro or meso-level analytics of organizational, participatory and spatial ICT-linked practices in civic associations, alongside their city-specific or macro-level civic space contexts and a critical hope component that reviews problems and potentialities in digital praxis. In this respect the core focus on the practices of civic associations in the info-sociational model also affords a distinct window on the dynamics of civic space and civic associational life in Hong Kong, Singapore and Taipei. The Chapter that follows will begin to address these issues further by examining the changing context of civic space in three tiger cities.

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Chapter Four. Associations, the environment and informatics in three tiger cities

4.1 Introduction

The contents of this Chapter provides a means for understanding the storylines of changing civic space in the three tiger cities and it serves as a backdrop for the case studies of civic environmental associations that will follow—in Chapters Five through Seven.[130] The previous Chapter suggested that city-specific storylines represented: "a shared way of making sense of the past and speculating about what might become true in the future" (Moore 2007: 11). These differing and sometimes contested interpretations of civic space also include what Moore (Ibid., 20) refers to as: "competing stories that are employed by local interpretive communities." This Chapter attempts to provide a sampling of insights that relates the storylines of changing civic space inside each of the tiger cities to *civic associational life, environmental and informatics issues.* In turn this context will provide the some of the contents and context for examining the First Proposition that 'info-sociations are shaped by and shaping of civic space' (as detailed in the previous Chapter).

The first section in this Chapter discusses employing an actor-network approach for studying the dynamics of civic space in the tiger cities. The second portion of the Chapter compares associational life in the three tiger cities by exploring a range of civic associational campaigns in each. The third section compares a number of key spatio-environmental issues across the tiger cities, including governmental responses and civic resistances in relation to these concerns. The Chapter's fourth section shifts to discussing how informatics or ICT-linked practices—and their growing uses by civic associations and local civic-cyber resistance movements—has arguably altered the configuration of civic cyberspace (and knowledge, power and space) in Hong Kong, Singapore and Taipei. The final section of the Chapter briefly reviews the importance of fluid forms and formations of civic environmentalism, cyberactivism and local resistances as a means for understanding the storylines of changing civic space in the three tiger cities.

4.2 Actor-networks shaping city-specific storylines

The previous Chapter posited that an info-sociational model will assist in mapping and unpacking civic associations' organizational, participatory and spatial practices linked to the changing uses of information communication technologies (ICTs) within a civic space and critica context. In turn this 'mapping and unpacking' provides a frame for understanding how and why civic environmentalists are employing ICTs to further their aims; as well as how these may be transforming civic space in Hong Kong, Singapore and Taipei. This prompts the question: What

[130] This Chapter draws closely on the analysis of urban sustainability in Hong Kong, Singapore and Taipei in an article published earlier by the author: Sadoway (2009b) "Spatial sustainability in Urban Asia: conservation, eco-modernization and urban wilding," In Bolchover, J. and Solomon, J.D. (eds.), *Sustain and Develop,* 306090 Books, 13. New York: Princeton Architectural Press.

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is meant by 'civic space' and how might associational, environmental and informational issues be shaping this space in the three tiger cities?

In the context of Asian cities, Douglass, Ho and Ooi (2008: 3) define 'civic spaces' as: "[V]arious types of life spaces in which civil society finds room to create cultural practices in community lifeworlds." They add that conceptually and physically these may be considered, "spaces of social inclusion in which state and private economy are kept at arm's distance from dominating the production and reproduction of culture." Importantly, their definition of civic space includes ICT-connected spaces, what they term: 'cyber civic spaces', which they argue holds, "the promise of new forms of civic spaces without geographic propinquity" (Ibid.,12). Douglass, Ho and Ooi also highlight the importance of understanding transformations in civic spaces since these can serve as a type of barometer or an:

> *"[I]ndicator of globalization and urban change [and] an important comparative analysis of where capital touches down; how local relationships are reproduced and expanded; and the diverse nature of state alignment with capital and community"* (Ibid., 4).

In this respect examining civic space provides an approach for comparatively understanding the ICT-linked work of civic environmental associations in the three tiger cities. Douglass et als.' identification of the twin threats facing 'cyber civic space'—first, from the increasing commercial dominance of corporate conglomerates; and second, from governmental controls over political information (Ibid., 12-13)—has many parallels to the physical problems linked with civic spaces in the three tiger cities, as this Chapter will further examine.[131]

The temptation to analyze, as singularly dominating—the role of state institutional and governance structures in shaping questions about knowledge, power and space remains difficult to resist. For example, during the course of this investigation Hong Kong held a 'small circle' (s)election which resulted in the choice of a new Chief Executive to lead the Special Administrative Region's government (2012); and various Legislative Council and District Council elections have been held; in Singapore a General Election (2011) was held; and in Taiwan and Taipei two separate Presidential elections (along with Legislative Yuan elections) were held (2007; 2012), along with Mayoral and councilor elections being held in Taipei City and New Taipei City (formerly Taipei County) (2010). However, in employing a socio-technical ANT analytical approach suggests that the focus needs remains on understanding how power dynamics relate to and within the civic associational level of analysis foremost. In other words, unless electoral or other governance issues were identified by civic associations in relation to their work and ICT-linked practices such issues were not directly incorporated in the analysis here.

[131] Besides 'cyber civic spaces', Douglass, Ho and Ooi (2008:13-21) suggest a diversity of spaces worthy of inclusion as 'civic spaces', such as: public parks or plazas; public sidewalks and 'main street'; community or civic centers and public buildings; commercial establishments with traditions as civic spaces; private establishments with civic spaces regulated by the state; marginal, illegal or covert and disguised civic spaces; and insurgent spaces (Ibid., 5-14).

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Ho (2008: 58) in examining the role of civic spaces in shaping civil society and governance suggests that three conditions need to be fulfilled for guaranteeing popular participation: "the ability to mobilize and for participation to be sustained; the possibility of developing a support base beyond the local community; and the necessity of government taking such efforts seriously" (Ibid.). In some respects these conditions relate to the three analytical components of the info-sociational model—articulated in Chapter Three—with its focus ICT-linked organizational, participatory and spatial practices.

An info-sociational approach, it has been argued earlier in this study, centres its focus at the intersection of the social and informational (ICT-linked practices) in civic associational *sites of praxis*—that is locales where ideals and ideas are being experimented with and put into practice. The info-sociational model, as was identified in the previous Chapter, has been designed to scrutinize questions of knowledge, power and space in these civic environmental association sites. Actor-network theory (ANT)—a key set of concepts underlying the info-sociational approach—claims that in studying specific socio-technical accounts (such as the case studies in this investigation) that questions of power are embedded and emergent within the actor-networks, rather than being (pre)determined by external 'traditional' structures or superstructures (Czarniawska & Hernes 2005:9-10; Bach & Stark 2005: 49). "Traditional theories take power to be the cause of events and actions," argues Czarniawska and Hernes (Ibid.,), "whereas ANT takes it to be the effect or result." Or as Bach and Stark claim, "the geography of association rests on a different epistemological premise than the dyadic concept of power that hypostasizes the sovereign nation-state—associations are based on recombinant principles derived from social network theory rather than billiard ball models of classical international relations theory" (also see: Keck 2004: 46).

Understanding civic associational practices as civic environmental actor-networks and 'issue-networks' (Marres 2006, 2010) therefore attempts to provide one set of insights into changing civic space issues in each city setting. This suggests that rather than building analytical comparisons between the three tiger cities based on ideal-type urban governance models—such as those focusing on the 'state' and 'market' as the principal actors or drivers shaping knowledge, power and space—that instead, understanding associational praxis by mapping and unpacking capillary civic actor-networking provides an important counter perspective. Such an approach while not denying the role of the state and market—as 'obligatory passage points' (Callon 1986) or 'centres of calculation'—instead constructs its 'storylines of civic space' in the 'text and talk' (discourses) of civic associations (Moore 2007). This includes identifying ICT-linked civic counterplans, counterstrategies and daily resistances to the domination of urban (cyber)space by market or state forces (and the growing 'intertwining' of these two [Kuang 2009: 99]).

Rather than examining in detail how power may flows from governmental leadership or institutional changes, an info-sociational approach suggests examining how power is distributed and operates in civic spaces other than those directly shaped or influenced by electoral politics—as important as they might be in shaping civic space. Such an associational-centric perspective focuses on the particularities of what Castells' (2008: 82) refers to as 'counterpower strategies of the global civil society,' including local civic associations' visions

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and ideals (and counterplans and counterpolicies) about urban 'spaces of place' rather than 'space of flows' (Castells 1997: 428). Therefore Hong Kong's 'civic space storyline' identifies with its post-1997 *vibrant and vocal civil society*—operating within the unique associational freedoms of (quasi)democratic city-state governance ('one country, two systems') in a 'state of transition.' Similarly, Singapore's civic space storyline—while set in an independent, self-ruled republic that too is arguably quasi-democratic, in the sense that since Independence (in 1965) the state has been dominated by one party (PAP) rule[132]—also focuses how *civic associational life has morphed within and sometimes around the post-Independence historic bounds on civic life*. And in Singapore it identifies with the recent tentative (and perhaps limited) openings for civic-cyber groups in the city-state. By contrast, in Taipei, diverse expressions of dissent—particularly beginning with Taiwan's post-Authoritarian era (post-1987) and with the continued politicized divisions in society—have arguably shaped and been key shaping factors in the civic space storyline of a *continued Post-Authoritarian diversity and vociferousness of civic associational life*.

An info-sociational approach also examines how civic associations employ ICTs in relation to local places and civic spaces—with an analytics that focuses on civic associations as local 'sites of *praxis*.' This approach is tied to what ANT-theorist Latour (2005: 172, cited in Latham & McCormack 2010: 65) suggests as an analytical need: "to lay continuous connections leading from one local interaction to the other places, times, and agencies through which a local site is *made to do* something" [original emphasis]. From this point of view the 'storylines of civic space' can be understood as being shaped by the dynamic tensions between configurations of civic actors and local issues. On the other hand Marres' (2006: 8) approach has suggested that: "the 'issue network' invites us to focus on the broader networks of dissenting actors from the governmental, non-governmental, and for-profit sectors as the sites at which CSOs [civil society organizations] engage in controversies over specific affairs." The approach used in this investigation suggests that in each of the three cities both formal and informal power constellations vary and *de facto* leadership is not only situated with elected legislators, corporate boardrooms and civil servants suites ('centres of calculation'); but also within actor-networked civic associations such as: neighbourhood groups, clubs, associations, non-government organizations, conservation movements, activists, religious communities (such as temple associations)—as well as relatively recent civic-cyber associational formats.

Civic environmentalism and nascent civic-cyber resistances, it is argued here, is shaping and reconfiguring the ideals, ideas and praxis of civic associational life in all three cities—ranging from 'soft' or pragmatic forms of activism and resistance (like creating alternative media; writing e-mails of protest; blogging about guerrilla gardening); to passionate acts of activism (such as e-organizing street demonstrations; digitally sharing spatial justice actions; or new media coverage of natural and built heritage protection or occupations). At times these forms of grounded activism in Hong Kong, Singapore and Taipei have been critically multiplexed with ICT tools or platforms and new forms of cyberactivism—as this Chapter and the case studies in Chapters Five to Seven with further identify. While many of the civic associations in this

[132] Notably the strength of oppositional votes in the 2011 General Election demonstrated that political opposition in Singapore is by no means mute or unsupported.

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investigation do not themselves engage directly in cyberactivism of the type identified by Pickerill (2003), the interviews conducted for this investigation identified the importance that these practices sometimes represented—and examples across the cases identified new formats of civic-cyber alliances in all three tiger cities. A number of these ICT-linked associational alliances will be briefly identified in the fourth section of this Chapter. The sections that follow build-upon the idea of situating the six studies of civic associational ICT-linked practices within a changing 'civic space' context by identifying the dynamics of associational, environmental and informatics conditions inside each of the three tiger city settings.

4.3 Associational life: expanding 'civic spaces' in the three tiger cities?

This section compares associational life in the three tiger cities by discussing the changing role of civic associations and by exploring examples of several civic associational campaigns in Hong Kong, Singapore and Taipei. Civic environmentalists posit that public collaboration and engagement are necessary in uniting citizens to tackle spatial sustainability since it is public interest, passion, debates and dreams or idealistic visions which can all make communities stronger and focused on tackling urban environmental problems (Shutkin 2000). This prompts the question about the extent to which civic associations in the three tigers have been able to articulate environmentalist and counterpower alternatives. In Hong Kong, Singapore and Taipei the implicit force of state governmentality has historically tempered associational life—and as a result, civil society actors have at times been thought of as being in the shadows, neutered or incapacitated compared with power entanglements amongst local state and business elites (e.g. Poon 2005: 11-35; Hsiao 2006: 42-43; Douglass et al. 2008:13; Lee & Haque 2008; Tang 2008).

Scholars of associational life in Asia also have identified myriad influences that have shaped the distinct dynamics of civil society in the region such as: family, school and workplace associations or networks; Confucian-Buddhist-Taoist philosophical traditions, such as idealized consensual relations in society and the role of the just patriarchal ruler; a historical legacy of strong state authority, along with a legacy of colonial and/or authoritarian state rule; developmental statist-corporatist regimes; and relatively recent transitions to democratic, or quasi-democratic post-authoritarian and post-colonial regimes (Hsiao 1999; Weller 1999; 2005, 2006; Zarsky & Tay 2000; Cheung 2000; Shak & Hudson 2003; Lai 2004b; Douglass 2006; Lee & Haque 2008; Mok & Forrest 2009).

Studying associational life in Hong Kong, Singapore and Taipei also raises distinct challenges about understanding how local variants of civil society might be translated inter-culturally. This includes diverse concepts about associational life in cities such as: *minjian shehui* (~popular/non-official/common peoples' society), *wenming shehui* (civilized/enlightened society), *shimin shehui* (city/townspeople's society) and *gongmin shehui* (citizens'/public peoples' society) (Des Forges 1997: 71, citing Wang 1992; Weller 1999: 28; Chen 2010b: 237; Yang 2010: 126). It has also been noted that some of the civic environmental groups in this study's settings (particularly Hong Kong and Taipei) have at times linked cultural, customary or

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spiritual practices within their activities or activism (e.g. Weller 1999: 115-120; Lai 2000: 280-282). To this complex mix we might add the influence of technologies—specifically the recent rise in influence of ICTs—and the premise that these are both *shaped by* and *shaping of* civic associational practices and civic space.

Interestingly, evidence from over the past decade suggests that civil society and associational life in some respects has remained strong or growing in the three tiger cities (Chan & Hills 1993; Chang 1998; Lee & So 1999; Fan 2000, 2004; Hsiao & Liu 2002; Hobson 2005; HKCSS 2006; Ho 2006; Chan & Chan 2007). This apparent flourishing of life in the Asian tigers, arguably contrasts to observations about threats to civic associational life in the U.S., as Putnam's (1995) work has identified in relation to declining 'social capital' and volunteerism in that setting. And although this assertion may be questioned in the case of Singapore, the recent role of ICT-linked civic-cyberspace appears to also demonstrate possibilities for an 'opening-up' of associational life via civic-cyber society in that city-state (Tan 2006; Pakium 2007; Tan 2007; Tan 2010). Indeed, this investigation has, like the research of others, suggested that civic groups in all three of these cities have demonstrated diverse activist tactics, aptitudes and agilities in politicizing issues related to the planning and sustainability of urban spaces (Lai 2000; Weller 2005; Chan 2007; Poon 2007; Lim & Wong 2011), including forms of civic-cyber activism that are linked to ICT practices. The key point is that—along with the complex socio-historical and institutional factors that have shaped post-colonial or post-authoritarian civic associations in Hong Kong, Singapore and Taipei—diverse forms of associational activism and dissent do exist inside the three tigers. Increasingly on-the-ground activities (still highly constrained in Singapore) are also being supplemented or augmented by ICT-linked strategies and tactics as the case studies found in this investigation will demonstrate in further depth.

Examples of spatial contestations from each of the tiger cities also illustrate some of the possibilities or potentialities being articulated in relation to changing civic physical and virtual spaces. Three examples of civic space activism in Hong Kong are noteworthy, where in the past decade there has been a groundswell of responses—by civic groups, movements, organizations, think tanks, professional associations, academics, and political parties—for devising alternative visions for the urban environment and the future of city spaces and places. First, a plethora of public space issues has been evident in Hong Kong. These range from 'air quality justice' issues such as urban airflow issues caused by 'wall effects' from new tower developments, identified in part by urban design critiques of high rise massing and urban 'wall effects' (effecting air circulation) by civic environmental groups like Green Sense in Hong Kong (Interview with Green Sense members 1/12/2009); to the protection of sites of collective historical memories, such a long-term sit-in by heritage activists at the now demolished Star Ferry and Queen's Piers in 2006-07 (Interview with Conservancy Association staffer 23/12/2009); or contested public-private space access rights issues at Times Square (Causeway Bay) in one of the more rare pedestrian-friendly districts of Hong Kong (Interview with Designing Hong Kong CEO 23/12/2009).[133] These types of issues dealing with the regulation, uses and surveillance of

[133] Times Square became a public issue in 2008 when legal disagreements arose between the HKSAR government and shopping centre owner. As Ng Kang-Chung (2008) reports, community activists pressed the owner and government to ensure free access to the space at Times Square and other sites in Hong Kong where such 'public open space' has been designated within privately owned sites.

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urban spaces; and environmental, heritage and access dimensions of civic space have instigated civil associational calls not only for deeper civic engagement (by the government agencies), they have also driven wider debates about the uses of urban space in Hong Kong as the two case studies in Chapter Five will further identify.

Second, in the late 1990s proposals for land reclamations in Hong Kong's Victoria Harbour underscored public concerns about the impacts of large-scale development on the environment as well as for public access to space for recreation and aesthetic reasons. In response a form of legal activism resulted in the 1998 creation of a *Protection of the Harbour Ordinance* to minimize infill and ill-conceived infrastructure or developments. Another harbour-focused effort organized through an alliance of 10 civil society organizations, known as City Envisioning@Harbour (CE@HK), included design competitions; Internet discussions, public fora and media campaigns in support of community-driven visions for Hong Kong's waterfront (Chan and Chan (2007: 87-88). The civic environmental group Designing Hong Kong, as the case study in Chapter Five will discuss further, had its genesis with the Victoria Harbour issue and included a counterplanning design competition which featured an ICT-linked participatory component (Interview with Designing Hong Kong CEO 23/12/2009). Design teams in the DHK Harbourfront competition submitted online alternative public space configurations and waterfront development options, and submissions featured habitat restoration, and renewable energy system designs, for example, but perhaps more importantly prompted public agencies to rethink their public consultation approach in large scale urban design projects.

Third, the fate of Hong Kong's independent street markets—such as Wan Chai Market and Peel-Graham-Gage Street Markets—became issues due to large-scale redevelopment plans that threatened their demise or erosion of character.[134] Spatial sustainability advocates and NGOs, such as the Conservancy Association (CA) (featured as a case study in Chapter Five of this investigation) and their partner CACHE (amongst other groups) responded by working with merchants, artists, educators and designers in devising campaigns for protecting vibrant, auto-free, independent local owner-operated neighbourhood network economies (Conservancy Association 2006). To win recognition for the uniqueness of these neighbourhood markets various campaigns included in teach-ins, digital and physical flashmobs, public art exhibits, and demos at public meetings and they may have at least succeeded in reminding government officials of the need for transparency, debate and dialogue about the future of public space in Hong Kong (e.g. www.savethestreetmarket.com. Last accessed 19 March 2009).

While civil society in the city-state of Singapore appears to be more constrained in comparison to Hong Kong or Taipei, there has also been a pronounced interest in spatial sustainability issues amongst residents, campus green groups, and longstanding civic associations, including the Nature Society (Singapore) (NSS) (featured as a case study in Chapter Six) amongst others (see Singapore civic associations interviewed in Appendix 1). The active use of ICTs, including by

[134] Chan & Chan (2007) also discuss heritage issues in relation to the changing nature of Hong Kong civil society (movements and NGOs) and the growth in interest in 'green issues', referring to land use planning, environmental and heritage concerns in Hong Kong. Conservancy Association (2006:9) and NGO and movement campaigns to protect these markets (also see: www.savethstreetmarket.com . Last accessed 19 March 2009) Chan (2007) identifies these contested civic and heritage spaces and discusses both strengths and limitations of civil society and movements in achieving their sustainability objectives.

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green bloggers and online campaigners—such social networking sites, weblogs, websites—and civic associations has notably become apparent in recent years (see for example: George 2006; Lord 2006; Tan 2006; Tan 2007; Gomez 2008); and has been evident in several of the campaigns that will be discussed in the two Singapore case studies in this investigation located in Chapter Six.[135]

Urban sustainability questions may trigger what Singaporeans sometimes refer to as 'OB' or 'out of bounds' issues, especially if assumptions behind the harmonious consumer-oriented society are questioned. For example, Lee (2010b) refers how civil society and politics in Singapore have been considered as *apolitical spaces*—shaped by a persistent norm in Singapore that 'politics' need only be confined within the bounded bubbles of parliament or acceptable/approved media discourse. He describes this aversion to politics in Singapore to his work on 'gestural politics' and civic 'auto-regulation.'[136]

Although rallies, or political assemblies and protests of five or more citizens have long been considered 'out of bounds', or illegal without a permit, one small and some suggest hopeful change for associational life and civic space in Singapore has been the changing status of Hong Lim Park "Speaker's Corner."[137] Officially sanctioned by the government in 2000 for approved public gatherings, few were actually held at this park since an overly restrictive permit-granting system and excessive policing deterred prospective speakers and protesters (Ooi 2008: 72). A more recent liberalization of rules in Hong Lim Park has resulted in the somewhat surprising use of this civic space as a Singaporean site for venting dissent including: human rights demonstrations, domestic helper abuse, investor rights protests and gay rights gatherings.[138] Arguably, civic spaces are not sustainable or viable unless there is a degree of public openness and access—including virtual spaces—where citizens, media, academics, civic associations and activists can safely congregate to share memories or hopes; vent healthy frustrations; or undertake constructive deliberation and debate.[139] The question remains: "Is Speaker's Corner a state-sponsored form of 'dissent zoning' or do the recent physical protests (some organized at

[135] This includes individual civic environmentalist websites (e.g. Nature Society of Singapore; ACRES Singapore) information nodes (e.g. Wild Singapore) and online journalists/bloggers who write about green issues (e.g. http://theonlinecitizen.com/blogs-sites/. Last accessed 20 March 2009). According to civil society and political observers in Singapore, a key issue remains the potential reach of the state in monitoring, sanitizing, scrubbing or depoliticizing online civic discourses and political party speech via regulations backed by the threat of legal action (e.g. sedition, slander) (Lord 2006: 101-112; Gomez 2008; Lee 2010).

[136] This included interfacing with the Singapore environmental scene actor-networks (both physically and virtually) as well as mediating these efforts in civic and cyberspaces. Here Lee (2010b) employs a Focauldian analysis, arguing that auto-regulation has successfully seeded a reflexive self-policing mechanism amongst its citizens (and civil society). For example, he posits: "Singapore should be understood under the terms auto-regulation, since its citizens have learned to automatically, and in most situations, objectively subject themselves to the rationalities of governmentality in return for social order, cultural control and economic prosperity."

[137] A trial in late 2008 stems from a case over two years previously where 6 individuals spoke at Speaker's Corner and then were charged by police of attempting to march to Parliament without a permit (*Singapore Straits Times*: Nov.28, 2008).

[138] Originally the park had a designated "Speaker's Corner" encouraged by then P.M. Goh Chok Tong in March 2000 (http://www.csmonitor.com/2000/0421/p7s1.html); however, police approvals were originally necessary for gatherings (Ooi 2008: 72). In September, 2008 the approvals (permit system) was relaxed and administratively the approvals procedures were placed under the auspices of Singapore National Parks (NParks). (http://www.nparks.gov.sg/cms/index.php?option=com_news&task=view&id=126&Itemid=50. Last accessed 20 March 2009).

[139] See an article by Wei (2008) that tracks the activities at Speaker's Corner and notes social activists' demand that public demonstrations be permitted elsewhere in Singapore.

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least partially via ICT tools) in Hong Lim Park suggest perhaps nascent forms of a more 'open civic space' are occurring in Singapore?"

In Taipei, the creative uses of civic (and cyber) spaces has involved a very wide and active range of civil society movements and organizations. This has included large numbers of civic groups, NGOs, foundations and charities along with media, publishers, religious organizations and nascent political parties—particularly those which helped to spurn the demise of martial law in 1987 and the subsequent legalization of multi-party democracy and official status for civic associations or non-governmental organizations (NGOs).[140] In the two decades since one-party rule in Taiwan a large range of sustainability issues—including land use, environment or social justice issues—have been articulated by citizen-activists and civic associations as they have challenged state and corporate power (Hsiao 1999, 2002; Tang 2003; Ho 2006).

Taipei as the capital and communications centre has continued to play a key role in sustainability movement-formations such as anti-nuclear and anti-incinerator citizen's campaigns; housing and spatial justice (amongst others), as articulated by civic associations such as the Taiwan Environmental Protection Union, Taiwan Watch, Green Citizens Action Alliance amongst many others (see Taipei civic associations interviewed in Appendix 1). These groups' seminal street level work arguably helped in the 'opening-up' of public civic spaces for protest purposes. Taipei urban residents' ongoing concerns about polluting industries; redevelopment and land use issues; and the location and nature of infrastructure; as well threats to the city's unique built and natural heritage have continued to be supported by civic groups and political parties who have not only protested, but also worked to articulate sound alternatives (Hsiao 1999; Ho 2006; Williams & Chang 2008: 78-83).[141]

Two civic associations, the Organization of Urban Res (OURs) (formed in 1989 in the active early post-authoritarian years) and a more recent formation, the Taiwan Environmental Information Association (TEIA) (formed in 2001) are both featured as cases respectively in Chapter Seven of this study—and each provides differing examples of how civic associations have been employing ICTs in their civic environmental praxis. In more recent years Taipei has also seen a wide range of creative civic activist responses—such as street protests, petitioning campaigns, creative parades, music concerts mixed with protests, demonstrations against political corruption, sit-ins, and even festive protests—often intermixed with cyber activism (see Kuang 2009; Zheng 2011). Such actions defy the stereotype of East Asian societies being fully compliant top-down, orderly, or conformist. For example, the contested nature of symbolic urban space in the politically-charged (re)naming of Taiwan Democracy Memorial Hall and Liberty Square in 2007 (formerly named Chiang Kai-Shek Memorial Hall and Square) incited

[140] Civil society in Taiwan is distinct from Singapore and Hong Kong for another reason. Taiwan's 1987 transition away from the authoritarian-era 'martial law period' triggered massive reforms of government, including crucially multi-party elections in the central Legislative Yuan and urban governments and a revised *Civic Organization Law* removing restrictions on NGOs (Su 2007: 329). Taiwan's NGOs became vital contributors to the democratization process, particularly in late 1980s, and were heavily involved in ongoing discourses about sustainability issues both domestically and sometimes internationally (Hsiao 1999; Ho 2006; Williams & Chang 2008: 21, 29).

[141] This includes examples such as the Lo-sheng Sanitorium case (partially supported through the work of an OURs staffer and public symposium on the issue) and ex. Songshan Tobacco Factory (supported through the work of a OURs, a neighbourhood NGO and the Green Party of Taiwan (see: Kuang 2009).

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some activists to request that the site be declared a 'heritage site,' while other pro-localization activists protested that the legacy of one of the city's largest public square should not remain a memorial to a dictator (i.e. CKS), but rather an emergent democracy.[142] Such spatial contestations also symbolize the sometimes deeply held and contested views on the destiny of the Taiwanese state and evident in the 'blue-green' political party rivalries (primarily between the DPP and KMT party factions) which permeates all levels of politics on the Island (e.g. Mattlin 2011). The energy, public visibility and media attention generated by lively activism and political rivalries also can mask some of the more pragmatic associational activities and initiatives of citizens. For example, in Taipei groups such as the Homemakers Foundation and Tzu-Chi Buddhist Foundation or local *Li* (neighbourhoods) have long been involved in grassroots recycling efforts, as well as healthy community meal programs—illustrating interconnected ecological and social aspects of civic environmentalism. This investigation has chosen to steer clear (as much as is possible) from the divisive and seemingly intractable political ruptures by focusing rather on how the energies of civic environmental associations are being channeled towards socio-ecological and technological transformations rather than state level machinations.

An info-sociational approach to understanding civic environmental associations highlights the importance of further examining the *emergent roles that ICTs may be playing* in assisting longstanding movements and associations to further their aims of urban livability, sustainability and socio-economic justice. The examples discussed above illustrated just a few of the diverse civic space contestations that are shaping the civic associational context in the three tiger cities. The point has been to illustrate that associational life has not only been shaped by the various modes of governance and polity in each of these three distinct settings—but also by the daily issues which drive dissent and civic concerns on the ground and amongst the grassroots members of society. Before examining the role of ICTs in conjunction with civic environmental associational practices (i.e. info-sociations) a number of key urban environmental issues need to be further identified in the three tiger cities. This will be the focus of the next section.

4.4 Environmental issues in the three tiger cities

This portion of the Chapter identifies several key environmental issues and debates in Hong Kong, Singapore and Taipei as background to the six case studies. These three cities arguably represent iconic 'urban role-models', if not self-promoting global 'brands' shaping and reifying governance, cultural, consumption and production norms in rapidly urbanizing Asia and beyond.[143] This troika appears, on the surface, to be examples of advanced post-industrializing urban-regions—illustrating Manuel Castells (1996) 'spaces of flows' argument, in that they act

[142] On the heritage site debate see a more extensive 2007 article in the *Taipei Times*: http://www.taipeitimes.com/News/taiwan/archives/2007/11/07/2003386620. The square has long been the site of protests of various sorts. For example, demonstrations and protests began in earnest at the square in Fall 2008 to seek the reform of Taiwan's *Assembly and Parade Laws* which governs the routing and nature of protests (see: http://www.taipeitimes.com/News/front/archives/2008/12/08/2003430569).

[143] See scholarly work by Vogel (1991); Rohlen (2002); Douglass (2006) for discussions on the role of the Tiger economies in shaping urban development norms in Asia.

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as key urban nexus of people, capital, trade, ideas and communications. While Hong Kong, Singapore and Taipei could be simply dismissed as vortices of high mass consumption—world cities that reached their zenith surfing late 20th century global growth waves—all three have made incredible strides in allaying material poverty and generating economic wealth. Yet environmental issues remain a challenge in all three settings.[144] The remainder of the discussion below firstly highlights six 'shadow issues' in the three cities in Hong Kong, Singapore and Taipei; and secondly it identifies examples of where civic environmental associations have been articulating alternatives to addressing these problematic issues.

4.4.1 Urban environmental 'shadow issues'

Hidden in the shadows of the fast-changing global city are serious threats to natural and built heritage. Shadow issues and shadow spaces represent urban problems denied, ignored, or forgotten and which may 'bite back' in future. Six basic spatial sustainability issues in Hong Kong, Singapore and Taipei are used to further illustrate. The first issue, air quality, is typically caused by an array of regional-scale point and ambient air pollutants, sourced from steadily growing vehicular exhausts, industrial processes, or vegetation clearances. Urban heat island and air inversion effects illustrate how city form and location concentrates the public health impacts of air pollutants on urban residents particularly those with respiratory problems. In addition to acid rain, C02/GHG impacts, and sunlight dimming, such threats have caused activists to identify the governance and scale of air quality problems in all three city-regions. For example, Hong Kong's air quality is impacted by and impacting-upon the massive industrialized Pearl River Delta (PRD) urban mega-region, one of the planet's most populated—with approximately 45-48 million residents (Interview with Clear the Air organizer 1/7/2010; Interview Clean Air Network organizer 1/25/2010).[145] Similarly, growth in urbanizing Iskandar Economic Zone in Johore, Malaysia and forest slash and burning in nearby Indonesia, illustrate regional air quality threats to Singapore's airshed (Ooi 2005: 121; Hornidge 2010: 811). Likewise, industrial and vehicular pollution impacts in Taipei City and Taipei County (in 2011 renamed New Taipei City), directly affect the Taipei Basin airshed (see Hsiao 2002; Williams & Chang 2008). Envisioning year-round safe air quality for all residents therefore requires significant resources and coordinated inter-jurisdictional action at varying scales. Several civic environmental associations focusing directly on air quality issues were interviewed in this investigation including Hong Kong's Clear the Air (Interview with organizer 1/7/2010) and the Clean Air Network (Interview with organizer 1/25/2010).

Second, in the process of traditional urban growth—with the construction of freeways, ports, channels, and other energy-intensive infrastructure—the visibility and health of natural watercourses, harbors and riparian ecosystems, and public access to these has often been

[144] For example, these three tiger cities' high ecological footprint appears to be on par with Euro-American high consumption urban indicators as identified in NEF (2006:20) and Warren-Rhodes & Koenig (2001: 357).

[145] Population data from 2003 reported in Yeung (2005:76) and: http://www.thegprd.com/about%5Cpopulation.html (March 18, 2009). It should be noted that urban regional population data sets in the Pan-PRD Region are difficult to align as they involve different jurisdictions, not to mention significant non-residential 'floating populations'.

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relegated to the shadows. Natural watercourses, basin processes and wetlands are controlled, channeled, buried, covered or piped in the name of urban efficiency, safety and hygiene. Besides concerns about long-term impacts to water quality and quantity and the need for integrated water management, calls are being made for protected marine and shoreline ecosystems in Hong Kong and Singapore due to the impacts of harbor reclamations, port developments, water pollutants, and marine traffic (Chou 2006; Wolanski 2006; Interview with WWF Hong Kong staffer 01/14/2010; Interview with Waterways Watch Society organizer 09/18/2009). Similarly, Taipei's Danshui River—once a trade route that helped shape that city's post-aboriginal settlement history—at the time of the study continued to serve as a common 'sewer,' essentially serving as a conduit for liquid effluent and even solid waste. Despite ongoing water quality problems, a riverside system of parkways, trails and gardens—in Taipei City and County—illustrates how residents have been reclaiming these vital public spaces. By reconnecting urban residents to waterfront spaces with clean waters, a basic link to the natural world and watershed consciousness may once again be restored. With the impacts of climate change issues like integrated watershed, wetland and shoreline protection have also become increasingly crucial. For example, Singapore's Waterways Watch Society focuses on water quality and watershed issues and was interviewed in this investigation (Interview with organizer 09/18/2009).

Third, the question of growing ecological, carbon and waste footprints can be partly attributed to the rise of affluent middle class consumption in each city.[146] Associated with mass conspicuous consumption values are the growing spatial impacts of the rise in private automobile purchases in advanced Asian cities. Beside air quality impacts, public health impacts (air, noise & light pollution), 'automobility' threatens neighbourhood safety and livability, not to mention the destruction of community vitality in the rush to spend public funds catering to 'a roads first' urban design and engineering paradigm at the expense of pedestrians and cyclists.[147] The loss of ecological and social capital in favour of an efficient automobility 'roads first' agenda raises the serious question of 'whose interests and priorities ought to come first in designing sustainable urban spaces?'[148]

A fourth shadow issue relates to the importance of a vibrant small, locally-owned, independent business sector. Like other cities shaped by modernity, Hong Kong, Singapore and Taipei—as a troika of 'global (digital) cities'—features iconic skyscrapers and energy-intensive, denatured landscapes at the very heart of their global place-making endeavor. Whether the signature

[146] Ecological footprints in Warren-Rhodes & Koenig, (2001: 357), while the Genuine Progress Indicator as part of the New Economics Foundations metrics (NEF 2006:20) tracks income distribution, housework/volunteering/higher education, crime, resource depletion, pollution, long-term environmental damage, changes in leisure time, defense expenditures, lifespan of consumer durables/public infrastructure, dependence on foreign assets.

[147] Pascal Poudenx (2008) identifies the issue of growing private automobile purchases in Singapore and Hong Kong despite disincentives. The term 'automobility' has been employed by political scientist Matthew Paterson (2007) to refer to the rise of car culture and its concomitant environmental, social justice and political-economic impacts.

[148] That all three cities have invested heavily in mass transit—with Singapore in particular introducing core congestion charges and heavy auto license fees—may bode well for developing sustainable urban development models that counter the global overreliance on 'automobility' as a key driver of contemporary urban morphologies.

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Taipei 101 complex, nestled amidst the high-end shopping and offices of Xinyi District; or I.M. Pei's iconic Bank of China Tower set amidst airborne commercialized private walkways in Hong Kong's Central District; or Singapore's vertical Financial District, or its horizontal high-end Orchard Road shopping district—the spatial vocabulary of narcissistic global mass consumption spaces in these 'role model' cities increasingly appears to cater to the efficient administration and rapid delivery/uptake of targeted financial and consumer goods. This consumption-led urban development ethic has driven design for space that is often in denial of, or at the expense of clusters of local, independent owner-operated businesses and community markets. Arguably such modes of urban development are unfolding in a manner analogous to forms identified in Graham and Marvin's (2001) 'splintering urbanism' axiom in that manifestations of increasing urban spatial segregation and the diminution or de-prioritization of publicly accessible physical civic and living spaces has been occurring (see discussion below on the evident gini co-efficient wealth polarization in all three cities). Similarly, often ignored or maligned spaces (in comparison to valorized core financial districts, for instance) like Hong Kong's Chung King Mansion (in Kowloon), continues to serve as an important global social nexus and economic incubator for immigrants, travelers, and entrepreneurs as acknowledged in the recent ETH Studio Basel Study on Minority Spaces (ETH 2008; also see: Mathews 2011). Like the silent incremental erosion of natural spaces over time, traditional spaces for independent-owner operated business appear to increasingly being compromised in all three cities—and frequently in the shadows of forms of catering to large multinational firms in strategic spatial and economic planning initiatives.

Fifth, is the shadowing of historical natural and built urban spaces. While the hypnotic, homogenized, oft-franchised 'spaces of modernity' previously noted, are commonly referenced in tourism campaigns, fragments of each of the three cities' historical patina and civility—whether parks, civic and festive spaces, neighbourhood street and food markets, temples, waterfront spaces, forested slopes and historical structures—have commonly been relegated to the shadows and sacrificed when developmental opportunism arises. Often these spaces have shaky legal protections, poor maintenance and access; or they are ill-equipped to compete on par with the design-build fetishized spaces favored by public agencies and corporate firms in new urban development or mega urban infrastructure projects. Sustainable spaces represent core real assets (as opposed to real estate assets) that exemplifies the soul and character of a city and as such they need care—either through restoration, preservation, renewal or smart incentives—by governments, businesses and residents alike. This investigation's discussions with groups such as the Singapore Heritage Society (Interview with President 09/18/2009) and Hong Kong's Conservancy Association (Interview with staffers 23/12/2009; 14/07/2011) identified a range of built and natural heritage concerns in each city respectively. The six case studies will variously touch upon these types of issues.

Sixth, also lurking in the shadows—as with global cities elsewhere—remains the difficulties and shame associated with social polarization, whether amongst the poor, homeless or disenabled, but more recently amongst the rising numbers of un/underemployed. Social sustainability in cities is often forgotten in the rush to urbanize and globalize, however, the issues of environmental justice, blind consumption, excessive automobility, the incremental loss of local

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small businesses to global franchises, and erosion of traditional knowledge and local spaces need to be brought out of the shadows into the light once again.[149] Here too the issue of growing socio-economic inequalities—as expressed for instance in the gini co-efficient—cannot be ignored in all three of the tiger cities (Cheung 2010; Hsu 2010; Low 2011a). More on these types of urban environmental issues in the three tiger cities including the approaches that civic environmentalists are employing to bring them to into the 'light' of civic-cyber public discourse and debate—or what Yang and Calhoun (2007) call the 'green public sphere'—will be discussed in the section that follows.

4.4.2 Associational forms of environmental resistance in the tiger cities

Scholars have identified the varied receptions that civic environmental associations receive in the three tiger cities (from governments and publics) and how this is partially a function of the institutional structures and modes of governance in each locale. Citizens in all three cities have also agitated over contested 'spaces in the shadows' threatened by land developments or urban renewal that threatens green spaces, neighbourhoods, heritage districts as well as spaces that may not have been deemed as fulfilling 'high culture/heritage' or engineering, planning and development values. Examples in Hong Kong include: the Star Ferry Clock/Queen's Pier ferry terminal, Lee Tung (Wedding Card) Street shophouse/living heritage district, or the Graham-Peel-Gage Street traditional hawker markets (Chueng 2007; Lee & Ng 2008).[150]

For instance, Hopkinson (2004: 248-272), in a report for the Hong Kong S.A.R. Government's Central Policy Unit identifies how civic environmentalists have interfaced (and 'interfered') with government not only in protests, mass mobilizations, or lobbying, but also in their watchdog activities, consulting services, submissions to the Legislative Council, and as parties to advisory bodies and formal consultation processes. These dual characteristics—as both 'critic or watchdog' and articulator of policy alternatives—will be evident in the two Hong Kong case studies of the Conservancy Association (CA) and Designing Hong Kong (DHK) found in Chapter Five of this investigation.

Threats to natural and built heritage in Singapore have included redevelopment plans in the city's 'old Chinatown', the loss of the now demolished old Central Library building partially in favor of a motorway tunnel; or development plans impacting not only Chek Jawa's ecologically sensitive sand and marine mudflats but the scale of community development; along with ongoing impacts Cyrene Reef from coastal developments, amongst others.[151] The Singapore

[149] See Tang's (2008) paper which discusses social inequality, cost of living/housing increases in the context of a land developer dominated elitism in Hong Kong. Tai 's(2006) work provides a comparative analysis of social polarization in Hong Kong, Singapore and Taipei using data on employment, work, incomes (including the gini co-efficient) as a measure of income polarization between the wealthiest and poorest residents in the three cities.

[150] Lee & Ng (2008: 303,315) identify Wedding Card Street as a controversial issue that illustrates the importance of planning for sustainable "life space" in a 'world city'; while Tang (2008: 357) refers to the "silencing of alternatives" for these spaces. Cheung (2007: 64,71) identifies heritage issues and environmental issues, including the Queen's Pier demonstrations (2006) and Harbour Protection Ordinance (2003) in the context of government consultation, involvement and Hong Kongers' issues with heritage and identity.

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case studies in this investigation will further discuss examples of the recent natural and heritage monument campaigns at Bukit Brown cemetery and along the former Malaysian rail corridor (the 'green corridor' campaign). In Singapore, Ooi (2005: 222-226) suggests that a traditionally centralized and, "strong state sector," has, "pre-empted a role for the civil society sector" (Ibid., 222-223) including tight control over development and planning processes. She identifies how groups like Nature Society (Singapore) have had little traditional institutional recourse given a lack of state interest in environmental impact assessments or meaningful public consultation (Ibid., 225). Arguably, however, over the past decade the Singapore government has been tentatively opening participatory channels (noted in Hobson 2005) for environmentalists and the discussion of urban sustainability issues, including via ICT-linked channels.[152] Examples of such changes were noted in interviews with a number of the civic environmental groups—and this will be touched on more in the case studies of the Nature Society (Singapore) and Green Drinks Singapore in Chapter Six of this study. Still, compared to Hong Kong or Taipei where civic environmental groups have historically challenged the state on the street, in the media, in the legislature and in meeting rooms on urban sustainability issues—civic engagement processes in relation to urban environmental issues in Singapore are relatively constrained or controlled by comparison. Interesting, however, ICT-linked platforms and tools may be providing 'civic cyberspaces of hope' in Singapore as parts of the case studies will further identify.

In Taipei and Taiwan civic environmentalism—often blending the work of scholars and activists—has fought to transform legislation on a wide range of fronts (Williams & Chang 2009: 78-83). Tactics have ranged from community lobbying and public education; to groups which opt for mobilization campaigns (Ibid., 87). This has included a focus on urban environmental causes and concerns in Taipei including about urban social justice and quality of life issues related to urban growth (Hsiao & Liu 2002). And while such campaigning has arguably shaped significant environmental reforms (Ibid., 81-82), including sustainability legislation it has at times also resulted in 'innovative' community-based consultation processes (Ng 2007: 364-367). On the other hand, in Taipei examples of threats to natural and built heritage have included re-development plans for the longstanding community at Losheng Lepers Sanitorium (Kuang 2009); a loss of community green space and trees at the ex-Songshan Tobacco Factory arts site in favor of a commercial/stadium site (a campaign that OURs, a case study in Chapter Seven, has been involved in); and threats to the fragile Danshui northern mangrove ecosystem from a ill-conceived highway; as well as a proposal to construct a tramway/ gondola inside a protected

[151] Kwok et al (2000) covers the issue of Singapore's National Library. Hin (2001) identifies several Singapore heritage and planning institutional issues, including the National Library, Chinatown District plans, the loss and reinstatement of street hawkers. Francesh-Huidobro (2008: 210-213) chronicles a series of successful and failed NGO-driven natural heritage protection campaigns in Singapore from the mid- 1980s-2003. Hobson (2006: 675) identifies the Chek Jawa [on Palau Ubin (an Island)] and mudflats, where development and reclamation was deferred (for 10 years to 2012) due to a public outcry, as one of the "ubiquitous spatial struggles taking place in the country [Singapore]". The particular concerns on Palau Ubin related to both natural and built heritage and the island way of life. Chou (2006: 383-84) discusses the threats to Singapore's reefs in the context of harbour developments and impacts to the marine ecosystem. Online social networking and blogging have been used as tactics by conservationists to raise attention of Singapore's Cyrene Reef as a threatened marine space (Further information available at: www.wildsingapore.com/places/cyrene.htm. Last accessed 20 March 2009).

[152] This was also evident in relation to Singapore's National Climate Change Strategy (NCCS) consultations which involved environmental groups during its drafting. For example, the NCCS (Government of Singapore 2008:44) identifies obtaining feedback from 13 organizations and institutions including: 5 university/college student groups; 4 environmental non-governmental organizations; 2 foundations/funds; 1 Think Tanl and 1 government-supported NGO. More recently, the GDS case in Chapter Six will identify a session it held with its members and the National Climate Change Secretariat on October 27, 2011. (See: http://greendrinks.org/Singapore/clist. Last accessed 24 November, 2011).

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area of the highest status in Taiwan.[153] Additional examples will be discussed in the case studies of Taipei civic environmental associations in Chapter Seven of this investigation. More examples of the ongoing problems with information flow between government and the public, and other challenges for civil society agendas will be discussed in the two Taipei cases of the Organizational of Urban REs (OURs) and the Taiwan Environmental Information Association (TEIA) found in Chapter Seven of this study.

Finally, given Hong Kong, Singapore and Taipei's relatively compact morphologies—compared with sizeable cities in the Americas—civic space, urban parks and protected areas have taken-on dual purposes both inside and on the urban periphery. All three cities have small-scale urban park systems inside a built-up city area, as well as peripheral ensembles of protected or threatened natural spaces or formal and informal green belts. Hong Kong's Country and Marine Park system; Singapore's Nature Reserves, Reservoir Parks, Connectors and Wetlands; and Taipei's YangMingShan National Park, City and County Parks, local mountain and riverside trail networks—illustrate that these cities are not just concrete jungles, as might be the perspective from their 'global city' core spaces. How to support additional urban parks and green space within the existing dense urban matrix while protecting natural spaces from the constant threat of incremental losses or public access denials remains a key issue as interviews (and park visits) with civic environmental groups in all three cities identified (Interview with Taiwan Nature Trail Society member 16/4/2009; Interview with Conservancy Association staffer 23/12/2009; Interview with Nature Society [Singapore] member 6/12/2009).

This small sampling of shadow issues and contested urban civic spaces in the tiger cities suggests that citizens and civic associations in all three cities continue to demand not only deeper government consultation processes and accountability in decision-making, but also development approaches that conserve sustainable spaces while avoiding the placeless or soulless space that deadens the quality of urban life—emphasizing the 'spaces of place' not just 'space of flows,' to employ Castells' (1997) terminology. In each of the three cities formal and informal power constellations vary and *de facto* leadership is not only found in elected legislators and civil servants, but with citizens in civic associational actor-networks such as: neighbourhood groups, clubs, non-government organizations, conservation movements, activists, religious communities (such as temple associations), and amongst local and international business communities. Such civic involvement and interest due to pragmatism or pride in place therefore is illustrative of citizens' and civic associational concerns about the fate of urban 'spaces of place.'

[153] Losheng (Taipei County) residents and allied activists have attempted to gain UNESCO heritage status for the threatened Japanese-Colonial sanatorium community for Hansen's Disease (Leprosy) residents (Loa: 2009a). Wang (2006), writes of involvement in a movement of allies to assist the residents of Losheng in their struggle with the MRT, government bureaucracy and politicians to prevent their communities' relocatior or demolition. Loa (2008) discusses the involvement of the Department of Health, MRT, Department of Rapid Transportation Systems Community groups in the Losheng issue which has been taken up by Taiwan NGOs and internationally. At a separate Japanese-Colonial era site—the ex. Songshan Tobacco plant, in Central Taipei—neighbourhood groups, eco-groups and the Green Party Taiwan demonstrated their concerns at the site regarding the nature of re-development plans (Taipei Times, 2008a; Loa: 2009b). In 2008 environmental and community groups in Danshui protested protesting a road/expressway expansion that would have impacted a riverside mangrove ecosystem (Taipei Times, 2008b; Lu, 2009). Separate plans to build a 4.8km gondola into Yangminghsan National Park (China Post, 2008), the highest status of protected area in Taiwan, have met with opposition from green NGOs because of the impacts to the National Park; safety concerns; and problems with a related environmental impact assessment (EIA) process.

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While the more recent embracing of eco-modernization and technologically-oriented environmental approaches on the part of tiger city governments—notable in the Singapore's government's interest in livable and green cities initiatives for example—may signal serious concerted and integrated 'green' directions this could also represent forms of tokenism in civic engagement about environmental issues. Political participation in addressing deeper environmental and social justice issues (such as the impacts of a consumer society; socio-economic imbalances; and spatial justice) appear to remain uncomfortable topics for discussion in sustainability and livability debates, as a number of the case studies in Hong Kong, Singapore and Taipei will indicate. This investigation's discussion on 'civic-cyber spaces of hope' attempts to identify how civic associations in the tiger cities may be generating new ideas and ideals in response to a number of these critical issues. The next section examines how another socio-technological priority amongst tiger city governments may be shaping the ICT praxis of not only citizens, but also of civic environmental actor-networks.

4.5 Informatics issues and associational resistance in the three tiger cities

This section along with the previous discussion adds to an understanding of the similarities and differences between the civic space storylines in each of the three tiger cities. This portion of the Chapter shifts to examining how informatics or ICT-related issues relates to both the networked or digital global city (i.e. Castells 1996; Laguerre 2005); as well as to activist actor-networks *in the city* and the growing use of ICTs, social media and digital tools by civic associations—including counterpublics and 'local resistance' movements or actions. The first section below will briefly examine several 'informatics-shaping' factors in Hong Kong, Singapore and Taipei; while the second portion explores how ICTs are shaping (and being shaped by) various forms of cyber-associational resistance—what Sassen (2005) terms 'communities of practice'—in each these three tiger cities.

4.5.1 Informatics-shaping factors

Before discussing ICT-linked activism it remains important to understand a number of informatics factors which shape the socio-technical nature of information communications in Hong Kong, Singapore and Taipei. This discussion seeks to identify some of the factors shaping the informational city as well as ICT-linked civic activism. One such 'shaping' perspective is that ICTs have been viewed as integral 'pillars' of the global city-regional economy. Indeed, the term 'three tigers' is illustrative of the earlier shifts to newly industrializing services-oriented economies and more recently towards post-industrializing economies. "Cities in the Information Age in Pacific Asia are dependent on knowledge and information trade, having moved from an economic base dependent on physical manufactured trade that was 'energy intensive" Yeung (2000: 233) suggests. This info-transformation is arguably illustrative of Castells (1996: 410-418) 'space of flows' in that the 'tiger cities' are nexus of people, capital, trade, ideas and information communication movements (Yeung 2000: 30-37; Renwick 2004: 156-159). Arguably ICTs have been instrumental in augmenting such flows in 'global cities.'

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Indeed, Yeung (2000: 244), argues that the economic dynamism in the Hong Kong and Taipei (and arguably Singapore) urban-regions can be associated with: "success in the conquest of the 'space-time' relationships." According to this narrative these three networked cities' 'fortunes'—as first generation 'tiger economies'—arose with rapid quantitative growth in manufacturing and urbanization in the 1970s in tandem with export-led growth and foreign direct investment (Yusuf & Nabeshima, 2006: 5-6; Douglass, 2006: 13-16; Rohlen, 2002). For example, in Asia's tiger cities massive urban-rural migrations, demographic transitions, rapid urban development and global economic integration via export-oriented development (and foreign direct investments) have been historically illustrative of 'time-space telescoping' effects, according to Peter Marcotullio (2005). This concept of time-space telescoping is a variation on David Harvey's axiom that technological advances—such as ICTs—involve 'time-space compression' and result in societal class and power struggles (Harvey 1989, cited in Marcotullio 2005: 15); along with parallel environment problems, as Marcotullio (2005) adds.

The most recent waves of growth, in this narrative has involved (at least partially) the role of ICTs as Hong Kong, Singapore and Taipei have experienced what might be termed an 'e-tiger' wave—illustrative of socio-economic structural transformations including shifts to informational and advanced services economies (Castells 1996: 403-410; Yeung, 2000: 244; Hornidge 2010). Hong Kong and Taipei, in particular have (at least temporarily) retained 'front end' research, marketing and distribution functions, while other nearby locales in the Pearl River Delta (PRD) mega-region have featured 'factory or workshop' functions (Yeh & Xu, 2008: 6).[154] Taipei City and New Taipei City and the northern Taiwan urban-region corridor, including Hsinchu City and County, remain an important Asian-Pacific ICT research and development interface zone, particularly between the U.S. West Coast and Mainland China (Lan 2009). At the same time Singapore has positioned itself as a knowledge hub in South-East Asia, aiming to bridge Chinese and India societies and cultures (and economies); and its government has focused a plethora of 'knowledge society' initiatives including its 'Intelligent Nation 2015 Strategy' (Ong 2005: 337-340; Hornidge 2010: 789).

The three tiger cities have also established pro-active, typically state-led approaches for targeting support for ICT infrastructure, broadband and mobility services, e-research and development in information technology clusters, training and education assistance to firms, the general public and to some extent to disadvantaged communities and digitally divided citizens respectively in Hong Kong,[155] Singapore[156] and Taipei.[157] In addition, the three tiger cities'

[154] In conjunction with their growth as global and regional service gateways or hubs, Hong Kong and Taipei have seen the out-migration of manufacturing away from core urban-regions to Eastern Mainland China (Yeh & Xu, 2008; Yeung, 2005).

[155] For example, in Hong Kong ICT-linked initiatives and investments such as the *Digital 21 Strategy*, *Cyberport* (an IT hub and incubator),*The Digital Solidarity Fund* (including support to civil/cyber society) and *Hong Kong Science Park* (R&D) were initiated (see: Yong 2003; Long et al., 2007).

[156] Hornidge (2010) identifies a host of ICT-linked initiatives such as 'Intelligent Nation 2015,' and the '2nd eGovernment Action Plan'; as well as 'Connected Singapore,' amongst other involving Singapore's Infocomm Development Authority and its Minister of Education. Goh (2009) identifies a Wireless@SG initiative for establishing city-wide Wireless Fidelity (WiFi) by 2015; and he also notes the importance of the Media Development Authority (for shaping Singapore as a "global media city") and the Ministry of Information, Communications and the Arts (MICA), the Interactive Digital Media (IDM) research program and Singapore's Economic Development Board (EDB) in relation to ICTs. As an example of 'grassroots' level the government has undertaken initiatives such as developing smart phone applications for searching for community/neighbourhood information (OurCommunity.sg) (Ang 2010).

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placement amongst the global 'ICT elites'—evident in the 2010 WEF-INSEAD global information technology rankings—illustrates their comparative successes in telephony, digital computing availability and broad-based ICT uptake (Fung, 2010; Liu & Wang 2010; Dutta & Mia 2010; WEF-INSEAD 2010). Several of these ICT indicators are shown in Figure 4.1, respectively illustrating the high levels of ICT deployment and uses in the three tiger cities, at least according to a set of standard comparative metrics of ICT development.

Although clearly well-endowed in terms of ICT infrastructure and capacity, it remains important to recall that socio-economic divides have increased over the past decade in all three cities—indicative by the rises in wealth or income gaps (i.e. the gini co-efficient) (Cheung 2010; Hsu 2010; Low 2011a). Moreover, measurable ICT 'successes' can not only mask deeper inequalities amongst the most disadvantaged urbanites, but also spatial segregation and losses of public spaces as secure and often private high tech (digitally secured) spaces trump public places (i.e. Graham and Marvin's [2001] 'splintering urbanism'). In addition to cyber-spatial and ICT access polarizations ('digital divide') questions about the uses of scarce public resources for ICT-led initiatives remain. For example, the partially publicly-financed Hong Kong's Cyberport project arguably failed to deliver on its aims to be a high tech service and an ICT-linked incubator space; instead supporting large entrenched oligopolistic business interests, rather than novel SME entrepreneurship (Ng 2005; Yep 2009; Shen 2010: 219). Such concerns also revive the classic urban planning debate about spurning 'megaprojects' versus enabling 'grassroots economic development' in relation to the nature and scale of government-supported ICT initiatives—as well as questions about incentives for vested interests versus addressing basic public needs.

Figure 4.1: Comparative ICT indicators for Hong Kong, Singapore and Taiwan.

Comparative ICT indicators	Hong Kong	Singapore	Taiwan
1. Fixed-line telephones (/ 100 residents)	**58.72** (2008)	**40.24** (2008)	**61.96** (2008)
2. Mobile phone subscribers (/ 100 residents)	**165.85** (2008)	**138.15** (2007)	**112.00** (2008)
3. Internet users (/ 100 residents)	**67.00** (2008)	**73.02** (2008)	**68.7** (2007)
4. Secure Internet Servers (/ million residents)	**287.46** (2008)	**390.34** (2008)	**311.80** (2008)
5. Personal Computers (/ 100 residents)	**69.25** (2008)	**76.04** (2008)	**83.47** (2008)

Source: "Global Information Technology Report 2009-2010 (WEF-INSEAD 2010).

In addition, the prioritization of e-government services and e-engagement has also become evident in the three cities—with the past decade or longer—where alongside a large variety of e-government initiatives (Yong 2003; Goh 2009; Fung, 2010; Liu & Wang 2010) there has been interest in the uses of ICT tools or platforms for civic engagement. For example, Hong Kong's

[157] Taiwan's state-wide e-Taiwan and m-Taiwan (mobility), Intelligent Taiwan, Science and Software Park initiatives; and Taipei's CyberCity/Digital City Project and e-life network—a large scale, city-wide WiFi initiative that included support for neighbourhood networks and a local ICT training course—are all indicative of how e-developmental governance has shaped Taipei's ICT-linked activities (see: Yong 2003; Liu & Wang 2010).

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government has conducted e-consultation experiments using social media—involving the Chief Executive (Tsang administration) and some Bureau/Department heads—in an attempt to reach-out to interested publics including youth and netizens (Fung 2010; Cheung 2010). Notably such e-consultation practices have been criticized in Hong Kong for their limited public interactivity and lack of comprehensiveness (e.g. ProCommons 2008: 17-18). Similarly, Taipei's Mayor's office claims to be engaging with constituents using a webpage and a popular micro-blogging service; and during City elections various rivals took-up blogging and social networking during campaign mobilizations (Mo, 2010; *Taipei Times*, July 5, 2010a; Zheng 2011).[158] In Singapore the government's REACH unit (a public consultation mechanism in government) has employed online feedback channels including social media platforms; although critics remain skeptical of its potential effectiveness (Lee 2010a). Additionally, the Singapore 2011 General Election campaign featured the use of new media, blogging, and a range of multi-media platforms by different political parties—apparently accommodated by a loosening of rules for 'Internet election advertising' (Wong 2011; Interview with the Founder of Green Drinks Singapore 7/11/2011). As the Singapore case studies will identify, ICTs have apparently provided important openings for oppositional voices in the realm of electoral politics. Besides public relations or electioneering, critics however suggest that unless deeper complementary consultative mechanisms and processes are established—including accountability and transparency in face-to-face settings—that social media or digital public consultations are likely to be ineffective or may even seriously backfire (e.g. see Cheung 2010; ProCommons 2008).

Another concern of media activists in Hong Kong has been concerns about the potential to censor online parody or social satire by invoking copyright holder infringements (Ip 2009: 64). Self-censorship (and real censorship) and media control have also been issues identified in relation to Singapore civic cyberspace, including sophisticated forms of Internet surveillance (Gomez 2002; Lord 2006: 101-114; Lee 2010b: 103-128), despite the 'light touch' regulations on the Internet and for new media apparently creating openings for dissenting opinions in civic political discourse (Pakiam 2007; Tan 2010: 3-4). For example, the 'light tough' regulatory approach in Singapore has interestingly been packaged with a set of 'political liberalisation' reforms (in 2008-2009), which includes: fast track registration for non-profit Societies; an ambivalent set of amendments related to the policing of 'public order' incidents in outdoor settings (but does liberalise Speaker's Corner/Hong Lim Park); 'light touch' and industry 'self-regulation' for Internet content and service providers (in conformity with Broadcasting Class License conditions and Internet Code of Practice); permitting 'political content' under the Films Act (yet, still vetted for their 'factual and objective' nature); and a loosening up of Internet election advertising by political parties ("podcasts, vodcasts, blogs and other new media tools") (Government of Singapore 2009: 1-13). These changes appear to be largely driven by global city competitiveness purposes rather than altruistic aims of opening up civic space. For instance a 2009 fact sheet on these ICT-linked reforms suggest they are intended for: "maintain[ing] Singapore's position as a business-friendly communication and information hub,"and for,

[158] Zheng (2011: 101) cites the case of the November 27, 2010 special municipality elections [essentially five 'metropolitan-area governments] in Taiwan where, "each and every one of the municipal mayor candidates had opened a personal Facebook or Plurk account, and all campaign websites were designed with Web 2.0 features."

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"giving maximum flexibility to industry players to operate" (Ibid., 9). And despite the changes (and proposals), registration requirements remain in place for political parties and promotion or discussion of political issues on the Internet (Ibid., 13).[159] Lai (2004a: 44-45) has also suggested that despite press and speech freedoms in Hong Kong that Internet service providers in both locales (Hong Kong and Singapore) self-censor and he compares this to the situation in Taiwan (Ibid. 48-49). He argues that since the post-authoritarian era that Taiwan, "has become the most liberal virtual and real 'space' in the East Asian region" (also see Kuang 2009: 112). Recent concerns about mass media ownership in Taiwan have, however, suggested that the threat of increasingly oligopolistic (and cross sectoral) media controlling interests may erode these media freedoms (e.g. Zheng 2011: 105).

As the discussion above has suggested, viewing ICTs instrumentally as industries or economic sectors (alongside the knowledge economy) that 'plug into' global economic circuits and informational flows have been key governance thrusts amongst the three cities. Ng and Hills (2003), suggest that viewing Asian global cities exclusively via an economic lens, however, can gloss over understanding important social polarizations and environmental injustices (also see Lai 2004b: 55-56).[160] In this socio-political-technological context the obstacles facing civic-cyber environmentalism become more evident—particularly since urban sustainability has not historically been viewed as central to the governance agenda as observations of civic environmentalism in all three cities have suggested. To what extent have or might ICTs enable civic associational campaigns and emergent movement formations to extend their efforts in *focusing on environmental and social justice issues* in the tiger cities? This will be the focus of the next section.

4.5.2 ICT-linked civic resistance in the Asian tiger cities

The role of ICTs in the three tiger cities as key city-region 'drivers' in their service economies frequently comes to mind as the discussion above illustrated. However, Qiu (2011) highlights how Asia has also been at the leading-edge of ICT-linked activism. In this he includes the '1998 *Reformasi* movement' websites in Malaysia; the use of mobile phones and SMS involved in the 'anti-Estrada Presidency movement' in the Philippines; and the use of mailing lists in Southeast Asia for generating support to the '1989 Tiananmen pro-democracy movement' (Ibid.,6)(also see Castells et al., 2007). This section focuses on some of these digital efforts in the Asian tiger cities in order to understand the changing configurations of 'civic space' and civic environmental actor-networks.

[159] Moreover, the Government was only studying whether to amend its known tough line on online (and offline) defamation (Government of Singapore 2009: 13) which had put undue onus on Internet intermediaries and content hosts—and which arguably has encouraged self-censorship, particularly around OB marker issues, including political issues.

[160] Lai's (2004a: 34-36) paper makes reference to "the developmental states' promotion of ICTs to enhance their engagement with, and competitiveness in, the global economy." This use of ICTs primarily for engagement with capital is cited in conjunction Schiller's (1999) notion of 'digital capitalism' ("the condition where ICT networks are directly generalizing the social and cultural range of the capitalist economy as never before") (Ibid., 34). In addition, Lai identifies that besides being 'suppliers of ICT equipment to the advanced global economies' that East Asian economies have also chosen to focus on e-commerce and e-government for competitiveness purposes (Ibid., 35).

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Although concerns about the fate of associational life and media freedoms after the 1997 return of Hong Kong to the People's Republic of China (PRC) remain—it has become apparent in the decade following British colonial rule that associational life in the city-state remains vibrant (Chan & Chan 2007; Chan, 2007; Poon 2007).[161] For instance, the so-called 'Generation Y'—or 'Post-80s' generational activists in Hong Kong—have heavily employed online social networking, citizen e-journalism, online radio, online video, and micro-blogging in their campaigns for social and environmental justice, and urban heritage, or peri-urban community conservation issues (Tsang 2010a,b; Fung 2010; Lai 2009). This has included activist groups such as h15 Concern Group, Local Action, V-Artivist and In-Media Hong Kong, amongst others—which represent novel subcultures of new media and digital activism intertwined with grassroots activism (Ip 2009; Da Rimini 2010: 46-110; Interview with In-Media HK member 23/12/2010; Lam & Ip 2011). Such activism has often multiplexed or blended digital and physical sites and tactics. Another example has been the use of e-tools by mainstream Hong Kong civic environmentalists which has served online users in making connections between air quality and public health concerns through digital links to green public sphere activities and educational resources or data.[162]

In Taiwan sweeping governance reforms linked to the critical shift-away from authoritarian rule in 1987, and the introduction of multi-party democracy and non-government organization legislation (i.e. revised *Civic Organization Law,* 1987), and alternative media growth (Hou 2003), have all invigorated associational life in Taipei over two decades ago.[163] The first significant and systemic Internet use by a Taiwan environmental association appears to be the Taiwan Environmental Action Network (TEAN) which was formed by a group of graduate students living and studying at various locales in the U.S. in the 1990s. This group remained connected to issues in Taiwan and upon returning were instrumental in civic environmental and educational issues (Interview with former TEAN member 20/8/2011). More recently, In Taipei, the so-called 'Wild Strawberry' Generations' savvy use of in-house movement bloggers has highlighted a variety of socio-political-ecological issues and activisms. Examples involve the linking of virtual counterspaces to physical sit-ins; as well as the temporary occupation of a public city square linked to digital broadcasting (Lin, 2010a,b; DeWolf, 2009; Loa, 2009). Another example of experimentation with digital activism has been the 'Coolloud' social/labour movement collective whose website features video, forums and news reports on a wide variety of social

[161] Hong Kongers' demands for greater government consultation and openness has been linked with civil society concerns about planning consultation processes, land development, environmental and heritage issues, etcetera. For example, although the 'one-country two systems principle' apparently supports Hong Kong's distinct associational and media regimes (e.g. *Basic Law*, *Common Law*, Internet governance); concerns remain about self-censorship and overzealous securitization of dissent as economic and political integration with the Mainland (People's Republic of China) takes hold (e.g. Fung 2002).

[162] For example, Hong Kong-based associations such as *Civic Exchange*, *Friends of the Earth HK*, the *Clean Air Network*, and *Clear the Air*, amongst others, have highlighted research, online links and public forums in support of the University of Hong Kong's 'Hedley Index.' This index is located at an online site which links daily localized air quality data to public health impacts (see: hedleyindex.sph.hku.hk. Last accessed 28 April 2011).

[163] This included the rise of a diverse Taiwanese environmental movement, and later NGOs with strong interests in urban sustainability issues (see: Hsiao & Liu 2002; Williams & Chang 2008, 21, 29).

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justice, human rights and environmental issues (Interview with Coolloud collective member 29/10/2009; Kuang 2009).

In Singapore the active uses of ICT tools and platforms such as social networking sites, green blogging, alternative websites, online forums and blogs—at times featuring built and natural sustainability issues—has become increasingly apparent in recent years (Tan 2006; Tan 2007; Interview with Green Corridor Campaigner 10/11/2010). This has included data rich individual civic environmentalist websites (e.g. ACRES); information nodes (e.g. Wild Singapore); and online new media and bloggers who cover green issues (e.g. http://theonlinecitizen.com/blogs-sites/. Last accessed 20 March 2009). And it has also involved digitally organized protests which have made links between social media activism to more rarely organized forms of physical mobilization and grounded activism in Singapore (Skoric et al., 2010). As this investigation's case studies of Green Drinks Singapore and the Nature Society (Singapore) will also discuss (in Chapter Six), ICT-activists have played increasingly integral roles in helping to forge new civic-cyber coalitions of concern about key local heritage and environmental issues.

The remainder of this section draws upon works by social science scholar On-Kwok Lai (2004a,b) and a collection of works by scholars and activists through Hong Kong's inmediahk.net (Ip 2011; also Kuang 2009; Zheng 2011), to highlight emergent forms of civic-cyber activism primarily in Hong Kong and Taipei.[164]

Lai's (2004a) comparative studies of 'e-mobilizations and cyberactivism' in six Asian societies (Hong Kong, Singapore, Taiwan, South Korea, China, Japan) explores ICTs role in the changing dynamics of "power relations, developmental tensions, and contradictions between the strong state and emerging civil society" (Ibid., 33).[165] Closely connected to this, he defines electronic democracy (e-democracy) as: "the democratization process aided by new electronic communication technology through various forms of e-mobilization." (Ibid., 95). Lai's work discusses how ICTs have been critical to state-centred developmental strategies and new public management e-service delivery reforms in an Asian context (i.e. techno efficiency-oriented). He also identifies how ICT-enhanced e-mobilization has supported: the global-localization of politics; the 'cellularization' of international NGOs and social movements; and transnational forms of activism (Ibid., 2004a: 41).[166]

[164] Several additional studies that pertain to ICT uses by environmentalists in this investigation's tiger city settings include: Chen's (2007) dissertation on eight environmental NGOs websites in Taiwan ('*A study of Taiwanese NGO strategies in the promotion of environmental protection')*; Tan's (2007) dissertation on ICT practices employed in Singapore environmentalism ('*Social Capital and Networks in Nature Conservation*'); and Da Ramini's (2010) dissertation ('*Socialised Technologies, Cultural Activism, and the Production of Agency*'), which features a case study of 'In-Media,' the Hong Kong-based social media activist group.

[165] In a separate work Lai (2004b) has defined e-mobilization as a form of cyber-activism which: "revolves around the strategic use of the new media by NGOs. E-mobilization occurs within cyberspace in the form of virtual communications between activists using various means, such as fax and short message-sending (SMS), e-mail, web pages and hyperlinks"(Ibid., 96).

[166] Citing the potential for greater horizontal power structures and participatory governance, Lai surmises that digital 'political communities' potentially enable peoples' involvement in policy making and governance (Lai 2004a, 41).

[166] Lai also calls for a progressive agenda in Asia that includes 'the humanization of ICT,' in which he envisions: "the project of e-mobilization; equity, participation, and social justice in the system of global/local governance" (2004a: 56).

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A threat to 'embryonic cyber-activism,' in Asia, Lai suggests, relates to state-led 'censorship and counter-cyber-activism measures' such as: content and conduit filtering controls; identification measures; retrieval limitations and targeted website blockages (Ibid.,42).[167] Additionally, Lai's (2004b) research has also examined cases of transnational digital environmental activism based in East Asia—what he terms 'cyber-rainbow warriors'—particularly in the work of Greenpeace China (Hong Kong) and Greenpeace Japan (Tokyo). Their former's ICT-linked activism has, for example, employed e-mobilization and online archiving of direct action confrontations over environmental issues such as a case of ocean dumping of dredging wastes (originating in Hong Kong) (Ibid., 97). In that case a digitally-coordinated protest targeted multiple agencies which, Lai suggests, could not have been possible without the utilization of ICTs (Ibid., 98). Other examples featured cyber-actions such as digital one-person-one-letter (OPOL) e-card or appeal letter campaigns focused on a wide range of environmental issues and augmented by ICT practices.[168] Lai also identified both opportunities and threats to ICT-linked activism and cyber-participation in Asia. In particular, he identifies regional variations in digital divides and accessibility; the importance of public ownership, access, and control over cyberspace; English language and foreign cyber-cultural dominance; and censorship problems (Ibid., 103-104; also see Lai 2004b: 54-55). Akin to both Sassen's (2005) and Horton's (2004) references to digital 'communities of practice,' Lai identifies the importance of network organizers' location, suggesting that: "the projects of environmental cyber-activists highlight the potential of the Internet as a creator of non-territorial communities of like-minded people, who meet in cyberspace for political purposes" (Ibid).[169]

A collection of papers by new media scholars and activists published through inmediahk.net (Ip 2011) also provides important comparative perspectives on digital activism in Asia, particularly in Hong Kong and Taiwan. Ip (2011: 9-10) suggests that 'temporary virtual communities' and 'non-organizational collective action,' including for mobilizing, are forming in Asia in conjunction with ICT practices. Although ICT-linked social mobilization 'may not guarantee any revolutionary or reform agenda to come' it does represent a political act, he suggests (Ibid.).[170]

Lam Oi-Wan and Ip Iam-Chong (2011: 49) posit that in Hong Kong 'the Internet public sphere' began to flourish starting in 1998-1999. The focus of their work on ICT uses in social mobilization argues that: "the interaction between social media and real-politics reproduces new political culture" (Ibid., 50), including 'new [local] forms of political resistance' (Ibid., 60).[171] Illustrative of the rapid shifts in the ICT landscape for civic activism, Lam and Ip (Ibid.; 49, 42)

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[168] At the time of his study, Lai (2004b: 100) indicated that OPOL efforts technically involved: "ICT–enhanced [letters] with JavaScript or Shockwave Flash."

[169] Lai (2004b) identifies the importance of both local public participation and broader networking in his analysis, which indicated a potential for successful digital campaign outcomes: "Aided by ICT, the whole process shows that its global networking and solidarity support, local public participation (indirectly supporting the protests) and high-profile protests (direct attack) can create pressure and a powerful political image, pushing governments and corporations to abandon their wrongful practices of damaging the environment" (Ibid., 97).

[170] Notably, Ip (2011: 9) suggests that in Hong Kong, "public opinion and mobilizations on the net have not replaced social or political campaigns and organizations."

[171] They define *social media* as 'interactive media with user generated content,' which includes, 'forums, blogs, collaborative publishing platforms, social networking websites, multimedia information sharing websites, podcasts and online interactive games' (Lam & Ip 2011: 49).

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chronicle the distinct phases in the evolution of Hong Kong social media, suggesting that key shifts have occurred in three to five year cycles, such as the rise and fall of:

- online bulletin board services (BBSes) [1997-99];
- web discussion forums (e.g. 'Hong Kong Golden', 'Discuss,' 'HK Wildlife') [2000-2004];[172]
- web-logs (blogs), collaborative text/audio publishing platforms and multimedia information sharing websites (including online radio websites) [2004-2008];
- social networking sites (e.g. Facebook) and microblogs (e.g. Twitter, Sina Weibo) [after 2009].

Their work also cites the recent importance of 'topic-specific mobilization websites' which typically provide single-purpose platforms 'for information syndication and campaign updates' (Ibid., 45). Importantly they observe that such civic cyberactivist oriented sites can remain difficult to sustain or transform into organizational cohesion once public interest in an issue has waned.[173] The environmental campaign of Tai Wan Sai Long (in Hong Kong) is illustrative of such a rapid digital response campaign that they cite and which is further detailed in Box 4.1.

Beginning in the mid-2000s in Hong Kong online Cantonese language website-based radio (both non-profit and commercial) have exercised political influence in the Special Administrative Region's social media landscape (Ibid., 46).[174] During this same timeframe—when concern about media 'self-censorship practices' was critical—'Inmediahk.net' was established (In late 2004) as a web-based platform that introduced participatory, grassroots media and citizen reporting to Hong Kong (Ibid., 48; Ip 2009). The In-Media Hong Kong website continues to involve a focus on cross-cutting themes: "public concern, direct involvement and intervention in social issues through citizen reporting," (Ibid., 48) including environmental issues.[175] Voluntary citizen's reporting at In-Media involves information gathering on social problems, exposing, critiquing and fueling public opinion—including campaigns for social justice, urban heritage and built or natural environmental issues in Hong Kong (Ibid. 44, 48, 58-59).[176] Lam and Ip have also identified how In-Media citizens' digital reporting and discussion forums have

[172] Lam and Ip (2011: 44) cite the example of Hong Kong Wildlife (www.hkwildlife.net) which along with an active web forum employed an online signature campaign that tied in with public education and involvement efforts to protect at risk habitat.

[173] In the context of 'topic-specific mobilization websites,' Lam and Ip (2011: 45) suggest that: "These websites are often discontinued once the issue-specific mobilization has come to an end." The difficulty, they suggest, is that the: "Momentum generated from the campaign usually cannot carry on or transform into a sustainable organizational form. Moreover, without the support of an active community, topic-specific mobilization websites can easily turn into a lonely island on the Internet" (Ibid.).

[174] Lam and Ip (2011: 46) cite the importance of a various online radio experiments (both non-profit and commercial efforts initiated during 2003-10), including: 'Radio A45'; 'People's Radio Hong Kong'; 'Hong Kong Reporter'; and 'My Radio.'

[175] The 2005 the anti-WTO mobilization in Hong Kong was cited by Lam and Ip (2011: 41) as playing a part in instilling linkages between direct action (physical activism) and the 'subsequent emergence of Internet mobilization.'

[176] Examples cited by Lam and Ip (2011: 48, 58) included the: 'Tree Protection Campaign' (2006); 'Save Star Ferry & Queen's Pier campaign' (2007); 'Save Choi Yuen Village' and 'Anti-Express Rail Link' campaigns (2009-2010); 'Save Tai Long Sai Wan campaign' (2010) and related New Territories land development issue campaigns. In the Choi Yuen Village case they note that the early stages involved, "students and scholars who follow issues of developmental justice, citizen's previously affected by urban renewal, and small groups concerned with Hong Kong's ecology and sustainable, or green, living" (Ibid., 53). They report that later, 'over thirty organizations and groups' were involved and made use of Facebook mobilizations and Inmediahk.net as an 'information hub' with issue-related reporting and forum discussions (Ibid., 55).

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intertwined with social media mobilizations—linking multiplexed virtual coverage of specific issues to physical actions such as demonstrations or protests (Ibid., 44, 52, 55). Additional tactics they cite have included the use of 'flash mob mobilization' coordinated via social networking (i.e. Facebook) and urban 'cellular guerrilla' activism (Ibid., 56-58).[177]

A number of conclusions stemming from Lam and Ip's (Ibid., 61-62) work on ICT-linked mobilization in Hong Kong can provide insights into the forthcoming case studies of civic associational ICT practices. First, digital actions can gain traction through 'the interaction between the Internet and traditional media.' Second, remediation can generate resonance or 'mobilization of affection'—as news is passed amongst personal networks. Third, social media mobilization suggests that 'identification politics [is] implicit in every redistributed message' (including incident-related 'emotional outbursts')—such as capillary 'micro-actions' which potentially can generate 'an explosion of public opinion'. Fourth, social media compensates for 'the weak horizontal linkage and isolation among civil groups' in a Hong Kong context. Fifth, a key challenge is sustaining the energy created by digital mobilization or translating this into physical actions particularly if there is a lack of an 'organizational core' or affinity networks. Sixth, ICT-linked mobilization also risks isolation from the general public unless 'effort is invested in the cultivation of public discourse.'

Some of the findings from Lam and Ip's work also have resonance with Portnoy Zheng's (2011: 105) research of ICT-linked activism in Taiwan. For instance, he concludes—similar to Lam and Ip's observations—that despite online movements' recent successes, digital dissent often lacks longer-term strategizing and sustainability:

> *"[A]s most movements are driven by sudden public outrage instead of a comprehensive organizational effort, very rarely can a movement sustain itself in terms of finance, duration or manpower, even though the Internet has provided a convenient means for short-term organizing"* (Ibid., 100).

Zheng also posits that Internet mobilization and social media now represent 'built-in' elements of Taiwanese social movements (Ibid.,88). His work identifies (Ibid., 85-87) how Taiwanese civic groups and movements are employing a range of ICT tools, and citing Chen's work (2010), identifies how these constitute a distinct 'civic communication system' (Ibid., 84).[178] Some of the social media ICT tools and techniques employed by Taiwanese civic associations have included:

[177] In one example of a land use issue—the 'Tai Long Sai Wan' campaign in 2010—an example of multiplexing took place when an issue was initially reported in Mainstream English language print media; translated and posted by inmediahk.net; circulated on Facebook to a rapidly formed group (reportedly of up to 80,000 netizens); which in turn attracted mainstream media coverage and eventually a reaction from the HKSAR Environment Bureau (Lam & Ip: 2011: 58-60).

[178] The 'civic communication system' that Chen Shun Hsiao (2010) refers to [cited in Zheng (2011: 84)] contrasts 'citizen communication' with 'mass communication'. The former, Chen suggests, has three features: 'the BBS Tribe (PTT)', 'independent media', and 'individual social media'; whilst the later also includes three elements: 'public service media', 'commercial media' and 'government media.'

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- *BBSes & online forums* (notably BBS has had staying power in Taiwanese cybercultures, particularly university-hosted services such as PTT at National Taiwan University in Taipei;
- *email groups* (used for intra and intergroup communications including e-newsletters and email links to discussion boards or collaborative websites);
- *blogs* (despite being replaced by microblogging and social media) remain important for their independent voices, ease of indexing and linkages to social networks);
- *microblogs* (such as Plurk, a Twitter-like service);
- *video sharing and live broadcast services* (e.g. hosting on PeoPo Civic News of Taiwan Public Television; and Justin.tv or Ustream live broadcasting tools);
- *social networking sites* (e.g. use of Facebook groups, fan pages, charity events, online petitions).

Zheng's research (Ibid., 88-90, 102) identifies the important role that ICTs have played in a number of late 2010's environmental and social justice issues campaigns in Taiwan, including those focused on: rural land appropriations (Miaoli County); expansion of Central Taiwan Science Park (Greater Taichung); hi-tech 'electronic sweatshops' (Hsinchu County); a land trust campaign organized to stop a petrochemical plant (Chunghua County); the 2008 'Wild Strawberry' student movement and public assembly campaign (also see: Kuang 2009). For instance, the Miaoli campaign on land appropriations also had wider socio-enviro movement ramifications, with ICT-linked activism being instrumental in the formation an NGO (Taiwan Rural Front) focused on 'anti-enclosure', 'anti-confiscation,' 'land use,' and 'land grab,' questions (Zheng 2011: 91).[179] Similar to the Hong Kong examples of civic-cyber activism, Zheng (Ibid., 98) stresses the intertwining (or multiplexing) aspects of social movements, Internet mobilization and remediation in the mainstream Taiwanese media. While ICT-linked mobilization can induce *in situ* organization over the course of an event, he suggests that pre-existing civic organizations (or links to them) retain greater mobilizing, networking and staying power.[180] This has important implications for the types of civic associations being examined in this investigation which are organized as formal non-profits associations, rather than the largely informal movements identified above in the works of Zheng, Lam and Ip.

The danger of exaggerating social media's influence and the ongoing problem with a lack of media reform in Taiwan, as well as the threat of Internet populism or scapegoating as information rapidly 'goes viral'—are all challenges identified in Zheng's (Ibid., 100, 105) research. His work also critically observes that some activists have raised concerns about: "whether the increasing easy use of social media and Internet mobilization comes as a trade-off

[179] In the Miaoli case, for example Zheng (2011: 90-91) writes that: "The Taiwan Bloggers Association installed a number of webcams in Dabu [in Mialoi County], allowing the public to become live witnesses to land confiscation through an iPhone app. People also managed to organize several collective actions on microblogs aimed at stopping the construction, such as encouraging fellow netizens in one case to make phone calls to various local government departments, so as to paralyze their daily operations" (Zheng 2011: 90-91).

[180] Other factors shaping digital mobilization effectiveness, includes: the issue context, local public attitude, mainstream media attention and digital native participation (Zheng 2011: 104).

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for traditional face-to-face mobilization" (Ibid., 103). This links to an issue that this study seeks to explore further about physical activism versus 'clicktivism.' In social media terms this distinction has been characterized in this investigation as a possible trade-off between 'face-to-face versus Facebook-to-Facebook.' More on this matter will be examined in the individual case studies of civic environmental associations in Chapters Five through Seven.

Box 4.1. **Tai Long Sai Wan—an example of participatory civic-cyber environmental activism**

The description by Lam and Ip (2011: 58) below provides a synopsis and analysis of how social media were mobilized—particularly the so-called 'Post-80s generation' of young media and environmental activists—in the Tai Long Sai Wan incident (in Hong Kong's New Territories) during the summer of 2010.

On 16 July, 2010, the Hong Kong-based English-language newspaper South China Morning Post published an exclusive article which exposed environmental destruction in Tai Long Sai Wan caused by the construction work of private developer Simon Lo Lin-Shing. Tse Kwun-Tung, a writer at inmediahk.net immediately translated the article into Chinese and circulated it on forums and on Facebook, sparking a general outrage. "Condemn Lo Lin-Shing for destroying the natural landscape and ecology of Tai Long Sai Wan, Demand the immediate halt of all construction worlds" to share related information with his hiker friends. To his surprise, thousands of users joined the group within the first few hours, and it had attracted 10,000 plus new members on each of the following few days. Eventually, more than 80,000 people joined the group.

Two days after the South China Morning Post published its exclusive report, not a single Chinese-language newspaper had followed up on the story. In contrast, netizen Ah Jiu called for a field trip via the aforementioned Facebook group, and on 6 July fifteen people travelled to Tai Long Sai Wan together. Wong Chun-Pong from inmediahk.net was among them, and he took the opportunity to interview the Sai Wan Village head, later explaining the details of the development plan to inmediahk.net's readers. Follow-up stories began to appear in Chinese media the next day, and the government then issued a press statement in response. At the same time, around thirty members of the Facebook group held a meeting at City University to discuss measures to stop the construction at Sai Wan. Later on, the ten to twenty core members of the Facebook group formed the "Tai Long Sai Wan Concern Group" and plotted the petition at the Agriculture, Fisheries and Conservation Department on 24 July. The petition was delivered to the Legislative Council on 28 July. On 20 July, nearly all local Chinese newspapers ran substantial coverage of the Sai Wan incident, and public opinion was unanimously critical of the government's approach. More people joined the Facebook group, offering all sorts of related information, one piece of which mentioned that the construction site in question was actually an archeological site. Taking note of this, Wong Chun-Pong cross checked that against visual materials he had gathered from the website of the Antiquities and Monuments Office, and confirmed the allegations that the construction at Sai Wan was causing damage to the archeological site. On 22 July, the Antiquities and Monuments Office confirmed the story and Lo Lin-Shing announced later that day that all the construction at Sai Wan had been ceased.

Contributing reporters from inmediahk.net also looked into land registries of the construction sites and disclosed on 27 July that Lo's project had been illegally occupying 50,000 square feet of Crown [government] land, an allegation which was confirmed the following day by Secretary for Development Lam Cheng Yuet-Ngor. On 6 August, the government gazetted and drafted Lo's land in Sai Wan into a restricted development zone, thereby bringing the matter to an end—the public had won a small battle.

The Facebook group later changed into an information hub for monitoring rural development projects.The mobilization witnessed how interaction among different forms of media has influenced the public opinion. The matter was first reported by an English-language newspaper, translated by inmediahk.net and then circulated on Facebook, turning the news story into public opinion which led to a series of citizen actions. When mainstream media were drawn to the matter, the bureaucratic response of the Secretary for the Environment ignited citizens' outrage and stirred up more criticisms. Through their joint efforts, netizens and inmediahk.net further exposed more of the private developer's offenses, including the illegal trespassing of construction vehicles in country parks, illegal occupation of government's land, and the fact that the construction site was located on the remains of an ancient lagoon. On these grounds, the government was obliged to step in. After the Sai Wan Campaign, in a similar incident, netizens steered public opinion and organized actions through interactive use of different forms of media and successfully stopped the Town Planning Board from approving Henderson Land Development's projects at Nam Sang Wai, a wetland area in the New Territories.

—Source: "Hong Kong: A new page for affective mobilization," Lam Oi-Wan and Ip Iam-Chong (translated by Lee Chi-Leung), 58-60 in Iam Chong Ip (Ed.) *Social Media Uprising in the Chinese-Speaking World* (2011)

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To recapitulate, this section has identified examples as well as current research about ICTs and civic environmentalism of relevance to this investigation's tiger-city settings. The implications of these reconfigurations for civic and cyberspace will be discussed in the final section of this Chapter which follows.

4.6 Conclusion: fluid forms of civic environmental resistance

This Chapter has provided an overview of several key associational, environmental and informatics issues shaping civic space in Hong Kong, Singapore and Taipei. The discussion has identified the importance of fluid forms and formations of civic environmentalism, cyberactivism and local digital resistances.

By and large the discussion above has primarily related to the distinct civic space storylines—identified in the first theoretical proposition—that info-sociations are shaped by and shaping of civic spaces. The controversies and possibilities outlined in this Chapter also have served to highlight the roles that civic associations and ICT-linked associational actor-networks are increasingly playing in each of the three tiger cities. Indeed, Moore (2007: 20) suggests that understanding various diverse local storylines remains important in examining socio-technological pathways, and he argues that: "if we want to understand *how and why* particular societies make the kind of technological choices they do, we need to understand the competing stories that are employed by local interpretive communities" [emphasis added] (Ibid.). The civic space storylines identified above—consisting of civic environmental, urban space and informatics issues and initiatives—have provided key insights into the various actors and agendas that are shaping both civic environmentalism and ICT praxis in the three tiger cities.

Thus, to some extent an info-sociational approach provides insights into questions about 'knowledge, power and space,' particularly by examining city-specific civic space storylines. Besides this Chapter's findings, a set of associational-centred narratives about the ICT practices of particular civic associations (operating in the three distinct civic spaces in Hong Kong, Singapore and Taipei) remains essential in order to build a solid empirical platform for understanding info-sociational transformations. This empirical work, in turn, will help in examining how and why civic associations are employing ICTs and under what conditions these practices are transforming civic space in the tiger cities. Developing a set of case studies focused on civic environmental associations' ICT-linked practices will be the focus of the contents of the next three Chapters that respectively follow.

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Chapter 5. Case studies: catalytic & longstanding civic networking in Hong Kong

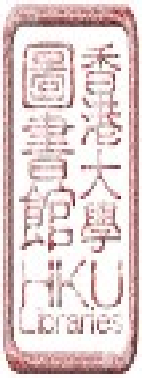
5.1 Introduction: coupled cases of civic-cyber environmentalism in Hong Kong

This Chapter and the next two (Chapters Six and Seven) focus more deeply than the city-specific context of info-sociations and involve unpacking and analyzing the practices of three pairs of civic environmental associations. In relation to the theoretical propositions the focus of this and the two forthcoming Chapters will be to provide empirical evidence for examining Propositions Two and Three—focused on understanding ICT-linked practices at the civic associational level; and on identifying critical spaces of hope in relation to these practices. The focus will therefore be on *mapping the ICT-linked* practices of civic associations and in the process telling the stories of six civic environmental actor-networks in three Asian tiger cities.

An info-sociational approach suggests than neither an analysis of ICT artifacts (or tools), nor an ethnomethodology of civic environmental organizational culture on their own would be sufficient for understanding the intertwining socio-technical aspects of ICT practices in contemporary civic associations. Instead, an info-sociational approach suggests an antidote to this analytical dilemma, namely: analysing civic environmental associations *as info-sociations*—that is, *as actor-networks* of co-evolving assemblages of people, ICTs and natural systems. Info-sociations it was posited can be understood as a mode of analysis of multimodal, multiplexed and multiscalar ICT-linked practices by civic associations. This is implemented in each case by identifying how civic associations' ICT-linked activities relate to *organizational*, *participatory* and *spatial* practices.

These three Chapters (Five, Six and Seven) compares the info-sociational practices of six civic environmental associations by examining contrasting pairs of cases of civic associations situated in Hong Kong, Singapore and Taipei. As the research methods in Chapter Two outlined, pairs or couplings of nominally distinct, age divergent civic environmental associations have been selected in this investigation to compare info-sociational practices. As '*sites of praxis*'—locales where ideals and ideas are being put into action—these six civic associations serve as 'barometers' for gauging or representing the dynamic and co-evolutionary nature of ICT-linked activities in civic environmental actor-networks. Collectively these six case narratives of point-in-time, point-in-place ICT-linked practices have provided an *empirical base* for the comparative analysis of the three theoretical propositions; for intra- and inter-city comparisons; and for an informed response to the research questions—identified earlier in this study—of how and why civic associations are employing ICTs in their work.

At this point it is also helpful to recall that each of these six case narratives derives its data from the 'text and talk' in and around tiger city civic associations. In particular, evidence for this investigation was assembled from multiple in-person and telephone interviews; from website analyses; from an online survey; as well as from supplementary materials, including but not limited to: organizational, scholarly or media publications (see Chapter Two for details).



This Chapter's empirical work begins by examining two distinct civic-cyber associational formations in Hong Kong and their use of ICTs: the first is illustrative of ICT uses in 'catalytic civic networking'; while the second demonstrates how ICTs may be building upon the legacy of longstanding environmental actor-networks. As was noted in greater detail in Chapter Two, the pair of Hong Kong cases of civic environmental associations was selected to illustrate groups with significantly differing organizational duration or age. The first case below discusses the practices of the nine year old group, Designing Hong Kong (DHK) (founded in 2003) which retains a focus on politically-contentious issues of land use, urban design and environmental issues in the Hong Kong Special Administrative Region (HKSAR). DHK's approach to ICT uses, from its genesis have featured an array of experimental practices which have helped catalyzed discussion, debate and network on urban sustainability in Hong Kong (alongside a wide range of other civic groups as Chapter Four has discussed).

The second case involves a mainstay of the Hong Kong environmental scene: The Conservancy Association (CA) (founded in 1968). This green group has been integral in tackling controversial conservation and land use issues (and proposing counter-policies or plans) throughout its history. The CA has continued to widen its sphere of interests into new specializations such as tree protection, environmental education and energy conservation—including through the uses of ICTs. Despite the differences in these two group's associational durations, histories and activities, CA and DHK each retains similar ideals and ideas about the need (and potential) for Hong Kong to develop in an environmentally and socio-economically balanced manner.

How might we better understand the variations in ICT uptake and practices amongst these two Hong Kong civic environmentalist groups? What surprises or unusual findings can we observe in each of these groups' multiplexed ICT practices? The Chapter will address these questions by employing the info-sociational model to unpack the ICT-linked organizational, participatory and spatial practices of Designing Hong Kong (DHK) and the Conservancy Association (CA).

5.2 Designing Hong Kong's (DHK's) catalytic civic networking

"[T]here's a rapid network on the Internet in the background where all of us connect with each other. And you know, somebody leads a particular topic, not by choice, but just that person leads the topic and its ahead of the others; massive stuff starts flowing around and other people chime in, and sometimes there are points of reaction…"

—Interview with Designing Hong Kong CEO (12/23/2009)

In the year 2003, stemming from aesthetic, ecological and quality of life concerns about land reclamation (or shoreline extension projects) and development in Hong Kong's iconic Victoria Harbour, a group of community-minded professionals established Designing Hong Kong Harbour District (DHKHD). An early press release about a DHKHD Harbourfront initiative identifies the importance placed upon participatory planning processes (including a mix of stakeholders) and urban sustainability in this civic group's formative stages:

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> *"The 'Designing Hong Kong Harbour District' initiative is an open invitation for individuals and parties from the government, business, professional, academic and community groups to partake in consensus-building on the principles, process and implementation of sustainable planning for the Hong Kong Harbour District"* (press release, 8 February 2004, available at: http://www.harbourdistrict.com.hk/hkhd_new/sub_new/press_2.html. Last accessed 5 April 2012).

From a formative, stakeholder-based interest in coalition-building and an 'integrated approach' to "building consensus on sustainable planning" (Ibid.) for Hong Kong's Harbour and West Kowloon District, DHKHD's focus would eventually widen beyond the harbour and with this change in scale and scope of interest its name was shortened to: Designing Hong Kong (DHK).[181] These wider interests would include land use planning; design and development issues; built and natural heritage issues; questions about public and private open space in Hong Kong's high density environs and the often contentious politics of spatial and infrastructure development in Hong Kong (interview with CEO, 12/23/09).[182]

DHK as a civic association—legally incorporated as non-profit limited company—focuses on improving urban sustainability through design and development research, alliance-building, as well as catalyzing community interest and education on these issues. Interests and activities are crucial to understanding how the ICT practices of DHK are shaped by what Marres (2006) refers to as 'issue networks'. By understanding how issues are framed in civic associations, she suggests, we can gain insight into their ICT-related praxis. For instance, DHK's stated mission—consisting of six distinct objectives—also reveals important elements of its organizational issue framing. DHK's mission, as stated on its website is:

> *"To promote the health, safety, convenience and the general, social, and economic welfare of the community of Hong Kong today, WITHOUT COMPROMISING the future. To identify ways and means of enhancing the quality and sustainability of Hong Kong's living environment for the health, safety, convenience and welfare of residents and visitors. To undertake research and studies into the design and development of Hong Kong's living environment. To educate and raise the awareness among the community on the need to protect and enhance the living environment of Hong Kong, and the ways and means to do so. To form alliances among members of the community with a common interest(s) in protecting and enhancing the living environment of Hong Kong. To*

[181] DHK was officially incorporated in Hong Kong as a Limited Company (by guarantee) with a non-profit mandate and at the time of interviews it had intentions to attain charitable organization status (favorable for tax-free donations).

[182] Crucial efforts involved City Envisioning@Harbour [Hong Kong] (CE@HK)—a broad-based alliance of civil society groups, eco-designers, neighborhood groups, professionals and academics that advocated the creation of a *Harbour Ordinance* to protect the waterfront from further infill / reclamations and ill-conceived developments (Ng 2006; Chan & Chan 2007: 87-88; Conservancy Association 2008: 103).

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undertake any and all lawful acts and deeds which are necessary and conducive to attaining the objects of the Company [DHK]" [original caps].[183]

The core Founders of DHK—Paul Zimmerman, Christine Loh, Markus Shaw and Peter Wong—each retains a wide range of professional, business, civic, government, and environmental networks in Hong Kong and beyond.[184] As directors—and a civic actor-network—these individuals have arguably played a crucial role in shaping DHK's 'issue network' given the relative tight structure of the organization—led during its relatively short history by a single-person Chief Executive. DHK's professional environmental actor-networks are organizationally more illustrative of Mulvihill's (2009) 'paradoxical' characterization of contemporary environmental formations—with attributes such as 'pragmatism', 'bridging networks' and a blurring of 'alternative/mainstream'—than Castells' (1997: 110-133) characterization of adversarial or solidarity-oriented environmentalism (with a focus on wilderness, quality of life, ecotopian counterculture, sustainability or counterpower).

How and why are ICTs being used by DHK to put its civic environmental ideals and ideas into practice? The response to this question necessitates describing how DHK as a relatively recent actor-network formation has become intertwined within Hong Kong's densely networked civic sector. Investigating this question involved three interviews with the Designing Hong Kong Co-Founder (subsequently referred to as the CEO here), including: a telephone interview with the CEO (07/27/2009); an in-person interview with the CEO (12/23/2009); and in-person conversation with the CEO and another researcher (11/19/2010); as well as an online survey questionnaire (06/2011). In addition one of the four DHK Founders was separately interviewed (3/10/2010) largely about issues related to separate civic association; however, that discussion also helped to inform this case study.

This story will illustrate how DHK has served to complement and catalyze an 'issue network' geared to urban design and planning issues. Part of its arguable success in doing this has been by mixing ICT practices with traditional public sphere activities, such as face-to-face discussion forums or urban design and politics. DHK's catalytic effects—particularly energized by its CEO—have been employed in linking people who are passionate about urban civic futures to ICT-connected practices. To examine these elements further an info-sociational approach—

[183] Located on the DHK website: http://designinghongkong.com/cms/index.php?option=com_content&task=view&id=2&Itemid=6. Last accessed 23 March 2012.

[184] For example, one of the four DHK Founders, Christine Loh, a trained lawyer and ex-member of Hong Kong's Legislative Council (LegCo), is the CEO of Civic Exchange—itself a highly networked Hong Kong-based non-profit think tank which also focuses on a wide range of urban sustainability, environmental and socio-economic issues. Another DHK Founder, Markus Shaw—also an ex-lawyer and investment manager—has Chaired WWF-Hong Kong (and has been a member of WWF's International Board), along with being a member of the Hong Kong Government's Advisory Council on the Environment. DHK Founder Peter Wong—a Chartered Accountant and Consultant and also an ex-LegCo member—has also served as a Chair of the Advisory Council on the Environment (HK), and was former Board Member of the Global Reporting Initiative (a corporate social responsibility code of conduct). And DHK Founder (and CEO at writing) Paul Zimmerman, ex-businessman and corporate consultant, currently serves as the elected 'Southern District' Councilor in Hong Kong; and has been Vice Chair of Hong Kong Coalition on Sustainable Tourism, as well as being a member of the 'current affairs committee' for Hong Kong's Conservancy Association (discussed in the next case study, below); and more recently appointed honourary advisor to the recently formed civic association: Hong Kong Public Space Initiative (Sources: Conservancy Association Annual Report 2010-11: 6; DHK website: http://designinghongkong.com/cms/index.php?option=com_content&task=view&id=2&Itemid=6. Last accessed 23 March 2012; District Councillor website: http://www.paulzimmerman.hk/wp. Last accessed 29 March 2012; Hong Kong Public Space Initiative Website: http://www.hkpsi.org/eng/aboutus/aboutus.php?page=team. Last accessed 23 March 2012).

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focusing on DHK's *organizational, participatory* and *spatial* ICT-linked practices—will be employed in unpacking the story of DHK and its 'catalytic civic networking.' This socio-technical approach shapes the backdrop, consisting of empirical description and analysis, to the three sections that follow.

5.2.1 DHK's organizational practices

DHK's ICT-linked activities have focused on a public website or media portal (largely in English, with some traditional Chinese), which acts as an online public archive for aggregating urban design and development news, city images, design scenario maps, design visions, land use and planning studies, surveys, digital recordings of forums, including links to public space and urban planning and design-related campaigns (Interviews with DHK's CEO, 7/27/2009; 12/23/2009). DHK's efforts can thus be characterized as civic educational, informational, lobbying and civic watchdog (or issues tracking) efforts—as is evident in the importance that DHK attached to a range of various civic environmental practices and identified in a 2011 survey conducted for this investigation (Table 5.1).

For example, DHK's informational practices—reinforcing of its 'issue-networks'—typically involve informing and interacting with citizens via e-newsletters, forums, press conferences and other means; while its watchdog practices involve tracking statutory planning processes, strategic and site-specific development plans and proposals (Ibid.).

Table 5.1: **Degree of importance attached to various practices in DHK's current work**

Practices	high	moderate	low	none	n / a
watchdog practices	■				
natural / built conservation	■				
information & education	■				
scientific research		■			
policy lobbying	■				
grassroots organizing	■				
civil society alliance-building	■				
government partnerships	■				
green / social enterprise			■		
business partnerships			■		

Source: Question #2, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia'. The question was phrased as follows: "How important are each of these practices in your association's current work and activities? High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

The info-sociational approach argues that understanding how ICTs are being employed necessitates understanding their *socio-technical* features—what Bach and Stark (2005) refer to as a 'co-evolving' set of problems and practices in non-profit organizations using ICTs. In DHK

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this involves examining first, the multiple complementary and catalytic roles of ICTs; second, the importance of the early adoption of ICTs into DHK routines; and third how DHK has lodged itself into a web of Hong Kong urban issue- and actor-networks. Each of these is discussed below.

5.2.1.1 ICT practices: multi-, complementary and catalytic

DHK's activism complements the work of other civic groups in Hong Kong—with its distinct focus on building alliances or directly tackling urban design, holding public forums and caucusing on land use and environmental issues city-wide. At times DHK has taken a lead in advancing issues, debate and discussion particularly in relation to its focus on urban sustainability. It is worth bearing in mind DHK's small size—at the time of the interviews, the chief executive officer (CEO) was the sole full-time staffer although sometimes contract assistance and student interns assisted in projects—when considering how ICTs can assist in publicity despite this size, staff or resource limitations.

The association was founded as a small organization—according to DHK's CEO—in order to retain flexibility; and because of the expertise, networks and resources that its four founding, voluntary directors brought with them (Interview 7/27/09). Seen through the lens of actor-network theory, the CEO represents an 'obligatory passage point' (Callon 1996: 205-206)—a keystone actor who shapes DHK's associations and networks—and with the uses of ICTs acting as a 'knowledge facilitator' in a 'knowledge community' more than an information broker (Bach & Stark 2005: 39-40).

Another window into DHK as an issue and actor-network is its activities and informational artifacts—both digital and otherwise. Some examples of these multiple modes or platforms include: regular email newsletters, regular face-to-face forums (on urban sustainability and design issues), press conferences, online videos, research papers and design scenarios and reactive or proactive submissions and commentary submitted to government departments or agencies.

Another set of DHK initiatives has involved keeping tabs on statutory land use planning processes, strategic and site-specific development plans and upcoming proposals (Interview 7/27/09; Interview 12/23/2009; also see note #5 above). In both cases ICTs have served in multiple ways to complement DHK's approach to mediation and land use planning research efforts. The next section discusses how ICT tools have been employed in advancing DHK's mission—providing further insights into DHK's 'issue networks' and design-oriented 'knowledge community' (both on and offline).

5.2.1.3 Early adoption of ICT tools for advancing DHK's mission

While many civic associations and NGOs have flexible, non-hierarchical group structures, it is interesting to note that ICTs have enabled DHK to retain and project a strong networked and

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public presence—particularly amongst Hong Kong's professional and expatriate community—despite the group's relatively recent genesis and small size. This is also evidenced in the range and timing of DHK's adoption and use of various ICT tools or platforms—with all of the tools or platforms it reports employing (in a 2011 survey) being clustered in either its initial or the early years of its operation (2003-04 and 2005-06), as Table 5.2 identifies. This includes its early use of a website—originally in the Designing Hong Kong Harbour District (DHKHD) website which was rolled-into the present DHK site—and later websites dedicated to single events (such as for the 2007 International Design Competition discussed below).[185]

Table 5.2: **Duration of DHK's uses of ICT tools or platforms [years]**

Use of ICT tools / platforms	11+ year*	9-10 years*	7-8 years	5-6 years	3-4 years	1-2 years	0-1 years	non use	unsure
social media page				■					
micro-blog								■	
active web site			■						
GIS map								■	
videos				■					
web logs (blogs)			■						
email discussion list			■						
web conferences								■	
e-newsletters			■						
SMS / phone alerts								■	
hosting e-petitions				■					
formatted e-letters			■						
online surveys or polls				■					
online forums								■	

*[note DHK was formed in 2003 and was 8 years in age at the time of the survey]
Source: Question #4, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia.' The question was phrased as follows: "As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms? In 2001 or earlier; in 2001-02; in 2003-04; in 2005-06; in 2007-08; in 2009-10; in 2011; we do not use this ICT / or no longer use; not sure" (Sadoway 2011).

DHK's primary ICT uses also have been identified as involving the following multimodal and multiplexed types of activities: online videos of public events and forums; a mass e-mail newsletter and special events distribution; hosting of e-petitions and organizing pre-formatted digital letters on urban land use and environmental issues; social media (the CEO's own Facebook page, for example); and online surveys on topics such as transportation and pedestrian issues. The relatively early adoption and uses of these e-tools or platforms illustrates how relatively small and young groups can effectively complement, augment (or even substitute) traditional forms of communications. This is similar to Bach and Stark (2005: 45) identification of how associational uses of the Internet allow for: "the leveraging of knowledge across multiple logics and ordering principles." And it is similar to observations that ICTs can enable a rapid and affordable means of disseminating an organizational message or agenda, particularly for small civic groups (Pickerill 2003).

[185] The DHK website (as of 2012) was formatted a single page, rolling blog style with numerous hyperlinks to current issues and events related to its core mission.

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Perhaps illustrative of Hong Kong's ongoing diversity, DHK was founded by an expatriate resident who translated a passion, strong networking abilities and concerns about urban spatial and design issues into political aspirations.[186] Such linkages between civic associations, grounded activism and local politics also relates to Marres' (2006) 'issue network' since political organizations clearly have identifiable platforms and interests.

5.2.1.4 The 'spider web': grounded & virtual actor-networking

DHK has drawn-upon a growing web of professional and grassroots networks. In particular this actor-networking has involved the multiplicity of ties and links of its four Founders in conjunction with the growth of the Internet. This involves what DHK's CEO refers to as, 'a spider web' process (Interview 12/23/09). This is essentially an actor-networking approach because it is both 'social and technical.'[187] In a sense these are latent human resource and 'knowledge communities'—of the type Bach & Stark (2005) refer to—or constellations of skills, experience and professional connections, which DHK can access when needed.

In addition, situation-driven 'issue networking'—as Marres (2006) describes it—has also occurred, primarily when triggered by local land use incidents, proposals, plans or critical events which 'assemble' local actor-networks for address or contest spatial and environmental issues. The DHK CEO further elaborated upon the 'spider web' or actor-networking process, particularly amongst civic environmental actor-networks and in relation to the Internet:

> *"[T]here's an active network on the Internet in the background where all of us connect with each other. And you know, somebody leads a particular topic, not by choice, but just that person leads the topic and its ahead of the others. Immediately massive stuff starts flowing around and other people chime in and key points crystallize quickly"* (Interview 12/23/09).

He cited examples of where connectivity has been prompted by responses to government consultations and where messages were subsequently disseminated on email networks and email lists (either joined by subscription or enlisted via personal contacts). DHK's CEO also made note of the fact that the 10-15 email lists which he subscribed to (in 2009) provided an important medium in which the 'spider web' process would occur (Interview 12/23/09). This brings to mind Horton's (2004: 740-743) identification of email as a key tool in environmental networking: for sustaining and strengthening networks and where needed, for lobbying and protests. Besides the use of email for reinforcing networks with a direct or close awareness of the issues, email was also noted as being used in DHK for distributing its e-newsletters—more

[186] DHK's CEO, since the interviews, was elected as a District Councilor in September 2010 (akin to a neighbourhood or borough assembly) initially running for Hong Kong's Civic Party—a centre-left party in Hong Kong's Southern District in September 2010 (see: http://www.paulzimmerman.hk/wp/. Last accessed 29 March 2012).

[187] DHK's Founders retain a constellation of various environmental, professional, business and civil society contacts with a wider web of local, regional and global networks. For example see: http://designinghongkong.com/cms/index.php?option=com_content&task=view&id=2&Itemid=6. Last accessed 23 March 2012.

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for informational purposes rather than solidifying or reinforcing networks concerned with environmental or land use issues.

According to the CEO, DHK determines what it can or cannot do using the 'spider web'—a kind of networked situational awareness—and to what extent it should play a supportive or leadership role, particularly in relation to the efforts, interests and skills of other civic groups. Awareness of these personal and organizational limitations appears to help in shaping and prioritizing its 'issue network' and 'knowledge network' formations. For instance, the DHK-CEO suggested:

> *"You can't do everything; you have limited resources, so if an issue is being picked-up by somebody else then you are happy to leave it there…"* (Interview 12/23/09).

The CEO cited examples of allied Hong Kong associations taking-on or specializing in specific issues.[188] He also referred to how such a web of connections was instrumental in raising awareness and activism about concerns in Hong Kong for community heritage and 'spatial justice' issues such as Lee Tung Street (also known as 'Wedding Card' Street), Star Ferry and Queen's Pier, Wan Chai Market and street markets elsewhere in Hong Kong (e.g. Save the Street Market Campaign) (Interview 12/23/09). Alliances, coalitions or partnerships can provide important impetus and shared resources for tackling issues. More on alliance formations will be discussed in relation to ICT-linked spatial practices below. ICT-linked tools also provide examples of what are termed in the info-sociational model 'participatory practices' involving the 'digital public sphere' and 'cyberactivism' which is the focus of the next section.

5.2.2 DHK's participatory practices

DHK's use of preformatted digital e-letters in campaigns (Figure 5.1); online surveys, e-petitions, online videos and its CEO's use of commercial social media (Facebook) involve what are referred to as 'participatory practices' in the info-sociational model. DHK started to employ social media, preformatted digital e-letter campaigns, as well as online surveys, e-petitions and online videos in its activities as early 2003-2006—that is, relatively early in the span of its near decade long existence. A number of these cyberactivist tools illustrate forms of 'electronic tactics'—such as 'electronic lobbying' and 'digital alternative media'—which Pickerill (2003: 121, 131) describes in relation to (arguably more radical) environmental groups.

DHK's approaches also mix face-to-face and digital interactions. This suggests a need to move beyond either/or-on/offline dichotomies, by examining the *intertwining* or *multiplexed* manner in which ICTs tools evolve. In some respects this also has similarities to Pickerill's (2003: 129) notion of combining 'online and offline' tactics—although not geared to direct action street protest. Tied to the info-sociational model this section will discuss two dimensions of DHK's ICT-linked participatory practices. The first dimension is how DHK's multiplexed practices arguable

[188] The CEO also identified groups such as Civic Exchange with regards to their work on air quality; The Conservancy Association for their work on the degradation of rural land; The Friends of Tsai Kung and The Tung Chung Concern Network (on area specific issues)—amongst many othe Hong Kong concern and environmental groups (Interview 12/23/09).

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illustrate the changing (digital) public sphere. The second dimension is DHK's efforts at various forms of digital activism related to important urban environmental issues in Hong Kong.

5.2.2.1 Making it public online: (re)mediation of Hong Kong public sphere issues

Part and parcel of the idea behind DHK from its inception has been the importance not only of alternative designs and texts, but of face-to-face *talk*—namely, dialogue and debate about designs, plans, urban space and land use processes. According to DHK's CEO this has involved staging 'forums' and 'talk shops', since in a densely networked city like Hong Kong ideas can spread rapidly in person or virally via ICTs (Interview 12/23/09). DHK has, for example, organized and co-sponsored regular public forums, events and activities covering a wide range of issues related to urban planning and sustainability concerns—and typically these have been tightly connected to pressing land use issues of the day. In many respects these physical, in-person public events fit the classic Habermassian notion of 'public sphere', in that they provide a civic space for discourse (cited in Castells 2008: 78). The use of ICTs to augment these face-to-face events also has similarities to what Yang and Calhoun (2007) have referred to as the 'green public sphere' in the Mainland China context, with the key exception being that the Hong Kong Special Administrative Region retains (*de jure* and *de facto*) freedoms of association and speech both on the ground and online.

From DHK's inception ICTs have remained a key mode of media transmission since they have been employed for rapid, cost-effective dissemination of news about projects and public events like CitySpeak—a regular face-to-face urban affairs gathering at Hong Kong's Fringe Club—as well as for including archive-like online postings of video, links and resources related to urban spatial issues of the day (Interview 12/23/09).[189] The CitySpeak series—as the sample of events listed in Table 5.3 demonstrates—have touched-upon a wide range of issues ranging from pedestrian and transportation planning; to waste and water management, and DHK's core focus of interest: urban design and land use issues.[190]

Of interest here, however, is the fact that DHK's physical CitySpeak events are 'sandwiched' or multiplexed by ICT use both pre- and post-event. This includes pre-event digital announcements—some of which bundle advanced briefings, related articles, papers, e-letters/petitions or surveys related to the actual theme of the forum. For example, advance notice is given in the DHK email newsletter and added to the Hong Kong Fringe Club's online calendar—with the former distributed via email as well as being posted on the website. Digital videos of the events are uploaded (on the Fringe Club's blog) and then cross-posted on DHK's webpage.[191] In this respect a public physical event is both pre-announced and post-event

[189] 'CitySpeak,' events typically have involved pre-planned, scheduled Saturday morning public forums in a centrally-located heritage venue (i.e. Hong Kong's Fringe Club).

[190] CitySpeak events typically feature a panel of discussants addressing a thematic issue or question(s) meant to stimulate audience discussion and debate. Panelists on a given topic are typically drawn from public interest groups, civic and activist groups, government officials, scholars o researchers, business and the design profession.

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(re)mediated (or rebroadcast) using ICTs—making it accessible to a larger Hong Kong-wide (and global) audience outside the physical confines of the forum venue. CitySpeak forums are primarily conducted in English catering to multilingual local and expatriates (and often attracting a diverse group of professionals and activists alike).[192]

Table 5.3: **Examples of DHK's CitySpeak events public forums**

DHK sponsored CitySpeak and public forums (January 2010 - June 2011)	Key theme	Event date
CitySpeak: The changing streets of Tsimshatsui	pedestrian and transportation planning	06/25/2011
CitySpeak: A new identity for the Central Market?"	urban design and land use planning	04/16/2011
CitySpeak: Shaping Hong Kong's role in the Pearl River Delta	regional strategic planning and governance issues	03/26/2011
CitySpeak: The New Central Police Station	built heritage and urban design	01/22/2011
CitySpeak: Heaps of Garbage	waste management, reduction & recycling	11/27/2010
Forum: The Future of Victoria Harbour	waterfront and harbour planning	11/20/2010
CitySpeak: The Battle for West Kowloon	urban design proposal critiques	10/30/2010
CitySpeak: From Tai Long Sai Wan to a Nature Conservation Policy	nature conservation policy and nature conservation trust concept	10/19/2010
CitySpeak: Who can afford housing in Hong Kong?	housing affordability and accessibility	08/07/2010
CitySpeak: Privatised Public Space: Do new guidelines solve the problems?	public spaces issues; urban design	07/24/2010
CitySpeak: Heritage—How far do we dare go?	built heritage conservation	06/19/2010
CitySpeak: The Water We Drink	regional water conservation and management issues	05/15/2010
CitySpeak: Is transport the solution or the enemy?	public transportation issues	04/24/2010
CitySpeak: Street culture—Art+Design+Activism	urban culture; activist culture; art and design as forms of activism	01/23/2010

Source: Compiled by author from information on DHK's website: www.designinghongkong.com. Last accessed 4 April 2012. Themes developed by author from article and event posting content review.

The example of CitySpeak forums illustrates how a regular civic event can stimulate public-cyber sphere discussion and debate about key issues related to urban 'space and place'—multiplexed either in-person or disseminated online and available in a digital archive. DHK's CEO also identified the importance of, "creating space for others to negotiate solutions and alternatives," including giving, "people excuses to talk," about longer-term thinking about urban policies (Interview 12/23/09). Although grounded in a different context, in many respects CitySpeak events (as shown in Table 5.3) have parallels to Yang and Calhoun's (2007) observations about the importance of 'the circulation of discourse' and the importance of civic associational mediation (both digital and traditional) in shaping environmental publicity and the 'green' public sphere. In this respect the CitySpeak and other DHK-sponsored events have contributed to a 'convivial' and 'deliberative' public sphere (Lim & Kann 2008)—that is a civic-cyber space for people, "to come and sit at the table and respond," and listen or participate in

[191] DHK also has an official YouTube site (https://www.youtube.com/playlist?list=PL2BAF00072566D69. Last accessed 6 April 2012). At the time of writing the site, however, was not cross-referenced in DHK's other ICT venues and appears to be used largely for archiving purposes, such as highlights of DHK or related news and events (e.g. waterfront design issues).

[192] Illustrative of Hong Kong's diverse associational life, however, a wide range of other groups have taken-up design and urban planning/desigr issues for public sphere discussion either exclusively in Cantonese or at bilingual events, including groups such as the SEE Network and CACHE.

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discussing, debating and shaping Hong Kong's urban sustainability—including through online viewing of text, designs or remediated talks (and shared comments) in the digital public sphere (Ibid.)

Table 5.4: **DHK's electronic newsletter titles, themes and date of issue**

DHK e-newsletter title (January 2011 - February 2012)	E-news theme	Issue date
"Overloading Hong Kong's road network"	transportation planning	02/14/2012
"What makes for great waterfront promenades?"	waterfront design and planning	01/02/2012
Object to TST Star Ferry compromise"	transportation; waterfront design and planning	09/23/2011
"Open Letter to Donald Tsang: Protect the enclaves as promised"	nature conservation and land use	08/17/2011
"Deadline now: Voter registration in Hong Kong"	governance, political and electoral issues	07/12/2011
"Government Hill is not for sale"	urban real estate and land use planning issues	07/03/2011
"CitySpeak: The streets of Tsimshatsui."	pedestrian and transportation planning	06/19/2011
"Small House Policy must comply with Enclave Policy"	peri-urban land use planning	05/15/2011
"Who is fighting for better air?"	opinion piece on urban air quality	05/05/2011
"CitySpeak: The Central Market?"	urban design and land use planning	04/12/2011 & 04/05/2011
"CitySpeak: Planning the Pearl River Delta"	regional planning and governance issues	03/20/2011
"Save Government Hill (Do we need another shopping mall in central?)"	urban design and land use planning	03/10/2011
"HK community must get involved in PRD delta plans"	regional planning and governance issues	02/22/2011
"How do you like walking in Tsimshatsui? Let us know!"	pedestrian and transportation planning	02/16/2011
"Waterfront bike ride"	alternative transportation event	01/25/2011
"CitySpeak: The New Central Police Station"	built heritage and urban design	01/08/2011

Source: Compiled by author from information on DHK's website: www.designinghongkong.com. Last accessed 5 April 2012. Themes developed by author from article content review.

5.2.2.2 Digital activism: deepening debates about space & place

DHK's regular e-newsletters act as a catalyst for public discourse and debate about urban design and policy—and these notably include (sometimes provocative) personal opinion pieces and remediated urban sustainability and planning news (see Table 5.4). The DHK e-newsletter also flags key current events for stimulating public participation, in government-organized public consultations, including statutory urban planning consultations or environmental impacts assessments. Receiving DHK's e-news in one's email inbox not only provides a digest of key issues, it also prompts forms of cyberactivism by encouraging readers to complete digitally pre-

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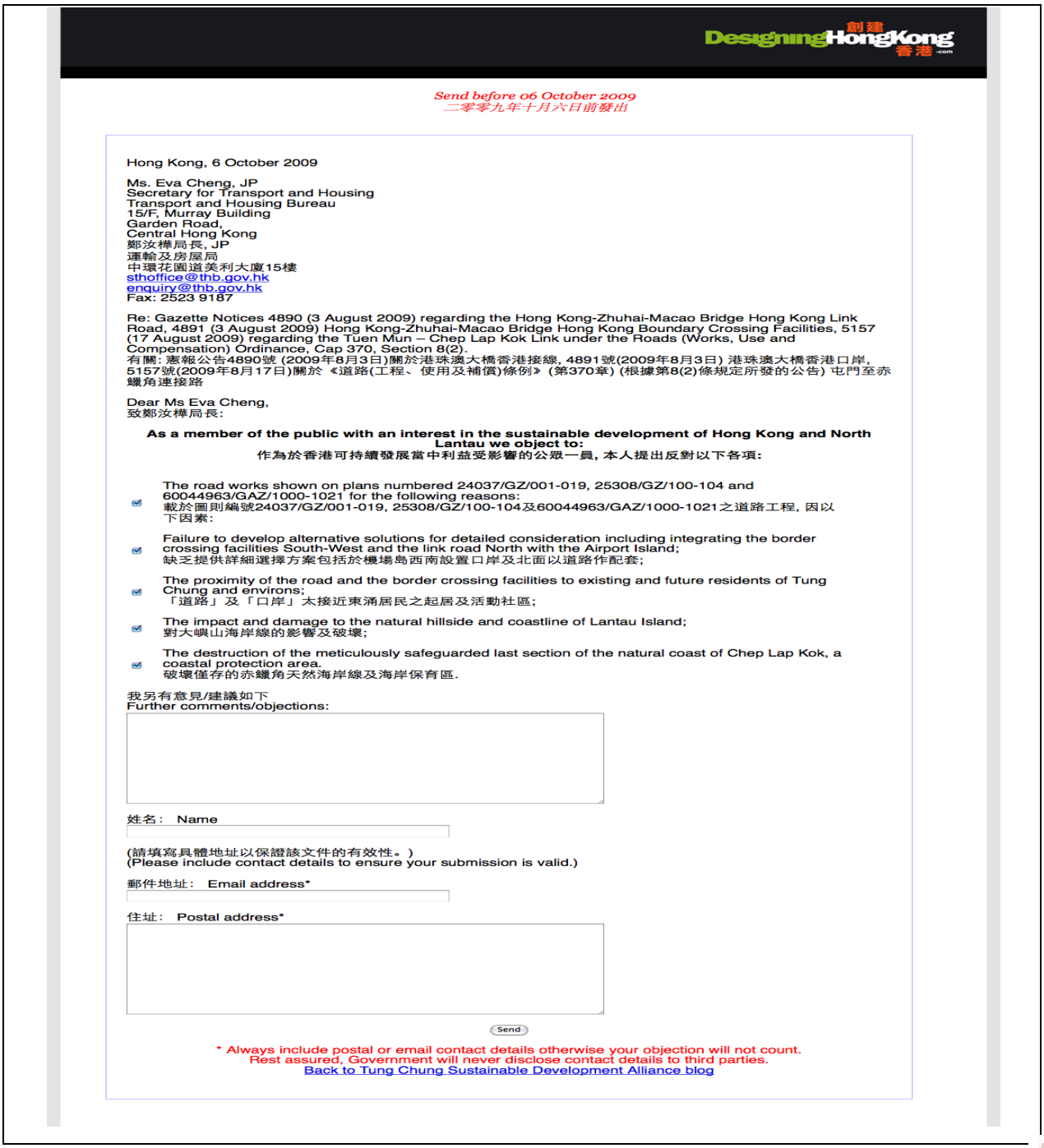

Send before 06 October 2009
二零零九年十月六日前發出

Hong Kong, 6 October 2009

Ms. Eva Cheng, JP
Secretary for Transport and Housing
Transport and Housing Bureau
15/F, Murray Building
Garden Road,
Central Hong Kong
鄭汝樺局長, JP
運輸及房屋局
中環花園道美利大廈15樓
sthoffice@thb.gov.hk
enquiry@thb.gov.hk
Fax: 2523 9187

Re: Gazette Notices 4890 (3 August 2009) regarding the Hong Kong-Zhuhai-Macao Bridge Hong Kong Link Road, 4891 (3 August 2009) Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities, 5157 (17 August 2009) regarding the Tuen Mun – Chep Lap Kok Link under the Roads (Works, Use and Compensation) Ordinance, Cap 370, Section 8(2).
有關: 憲報公告4890號 (2009年8月3日)關於港珠澳大橋香港接線, 4891號(2009年8月3日) 港珠澳大橋香港口岸, 5157號(2009年8月17日)關於《道路(工程、使用及補償)條例》(第370章) (根據第8(2)條規定所發的公告) 屯門至赤鱲角連接路

Dear Ms Eva Cheng,
致鄭汝樺局長:

As a member of the public with an interest in the sustainable development of Hong Kong and North Lantau we object to:
作為於香港可持續發展當中利益受影響的公眾一員, 本人提出反對以下各項:

- The road works shown on plans numbered 24037/GZ/001-019, 25308/GZ/100-104 and 60044963/GAZ/1000-1021 for the following reasons:
  載於圖則編號24037/GZ/001-019, 25308/GZ/100-104及60044963/GAZ/1000-1021之道路工程, 因以下因素:
- Failure to develop alternative solutions for detailed consideration including integrating the border crossing facilities South-West and the link road North with the Airport Island;
  缺乏提供詳細選擇方案包括於機場島西南設置口岸及北面以道路作配套;
- The proximity of the road and the border crossing facilities to existing and future residents of Tung Chung and environs;
  「道路」及「口岸」太接近東涌居民之起居及活動社區;
- The impact and damage to the natural hillside and coastline of Lantau Island;
  對大嶼山海岸線的影響及破壞;
- The destruction of the meticulously safeguarded last section of the natural coast of Chep Lap Kok, a coastal protection area.
  破壞僅存的赤鱲角天然海岸線及海岸保育區.

我另有意見/建議如下
Further comments/objections:

姓名： Name

(請填寫具體地址以保證該文件的有效性。)
(Please include contact details to ensure your submission is valid.)

郵件地址： Email address*

住址： Postal address*

Send

* Always include postal or email contact details otherwise your objection will not count.
Rest assured, Government will never disclose contact details to third parties.
Back to Tung Chung Sustainable Development Alliance blog

Figure 5.1: **Example of a DHK-sponsored pre-formatted e-letter appeal**
Source: www.designinghongkong.com/tungchung/hzmb2/. Last accessed 5 April, 2012.

formatted e-letters or e-petitions focused on pressing land use, environmental or policy concerns. Pickerill (2003: 121-122) identifies such forms of "electronic lobbying" as potentially influencing governments and improving access to public environmental information. As is noted in this Chapter DHK's CEO suggested that this type of digital lobbying clearly has had effects on public decision-making and engagement processes—such as with the Save Repulse

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Bay campaign which included online lobbying; and the influence of the Central Waterfront Design Competition and linked OPOL campaign (e-letter on zoning and related issues). Both of these ICT-linked efforts, as will be discussed further below, there was respectively an influence in the manner in which government bodies had conducted urban design public input and public deliberations.

A cyberactivist tactic that DHK has employed for over 7 years has been the use of ICTs for mobilizing people to voice their concerns either via email, telephone or letters. Typically this has taken the form of e-mail letter cyberactivism—also referred to as an 'OPOL' or 'one-person one letter (e-mail) appeal' (Lai 2004: 99). Such online appeals provide key background information—such as regulations, maps, proponent plans, counterplans and so forth—linked to a targeted issue or campaign. The OPOL tactics that DHK has employed includes pre-formatted, convenient appeal letters featuring personalized content options and comment boxes. These can be automatically directed, upon completion, as an email to the target agency or parties (Figure 5.1). The themes of some of DHK's OPOL campaigns have been wide ranging—as Table 5.5 suggests—and have included land use, transportation, heritage, environmental and quality of life concerns.

How successful have such OPOL campaigns been and do these tactics work? Although a systematic analysis has not been made here, DHK's Founder has claimed that the 'Save Repulse Bay Campaign' (the last item listed at the bottom of Table 5.5, in January 2009) prevented the loss of public access to a waterfront space and sale of a heritage building (i.e. privatization or transfer of a heritage structure and public lands to the private sector). While it may be difficult to attribute an OPOL campaign's success solely to an e-mail cyberactivist campaign diverse ICT tactics potentially can generate rapid responses as Pickerill's (2003) research points out. At the very least ICTs can complement 'traditional campaigns' by generating a wider awareness about issues. This demonstrates the potential of ICTs for changing actor-networks by broadening interest and participation and garnering media attention. As Pickerill (2003) notes, they can also provoke political and government agency responsiveness (and sometimes achieve favorable outcomes as DHK's 'Save Repulse Bay' campaign appears to have demonstrated). It is worth reiterating the relatively high importance that DHK has placed on the use of ICTs amongst its various practices—including 'creating new spaces for public participation' (i.e. public sphere reconfigurations) and 'providing tools for civic activism and mobilization,' as Table 5.6 further indicates. This section illustrated examples of both public sphere reconfigurations and cyberactivism—both features that the info-sociational suggests are transforming as civic associations experiment and co-evolve with ICTs.

5.2.3 DHK's spatial practices

In one sense nearly all of the issues that DHK have taken-on since its inception have been spatially related—that is tethered to the land, air or water as urban planning, design, land use or environmental questions. One example, of such an issue, DHK's focus on questions about the quality (and quantity) of Hong Kong public space will be briefly touched-upon below as it relates

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Table 5.5: **Examples and themes of DHK organized e-letter appeal campaigns**

Examples of e-letters appeals (January 2009-November 2011)	Key theme of e-letter	Submission timeframe
Star Ferry Tsim Sha Tsui Interchange— online request for formatted letters and comments to be digitally submitted to HKSAR Government Secretary for Transport and Housing	Mobility and pedestrian movement issue; public space and waterfront issues related to redevelopment at Star Ferry terminus / transport hub	11/2011
Stop Development in Country Park Enclaves—online request for formatted letters and comments to be digitally submitted to HKSAR Government Secretary for Transport and Housing Secretary for the Environment and Director of Lands and Town Planning Board	Request to stop development in Country Park Enclaves prior to preparation of Outline Zoning Plans; Concerns about To Kwa Peng development proposals [including concerns about lack of sewerage plans, lack of sensitivity to landscape and ecological values including mangroves]; Concerns about Tai Long Sai Wan incident	05/2011
Government Hill Campaign—online request for formatted letters and comments to be digitally submitted to HKSAR Government CEO and Hong Kong Town Planning Board	Seeking conservation zoning for Government Hill as a 'special historic protection area' / 'heritage precinct' designation with continued public ownership and public interests protected	03/2011
Pokfulam Stop the Trucks Campaign— online request for formatted letters and comments to be digitally submitted to HKSAR Government Director of Environmental Protection and separately through Legislative Council redress system	Alternative plans to trucking of waste materials from construction projects of a number of projects including South Island MTR tunnel	08/2010
Lie Yue Mun Campaign—online request for formatted letters and comments to be digitally submitted to Tourism Commission (HKSAR government)	Alternative 'improvement' plan suggestions (focus on sewage treatment) and heritage protection for waterfront village	12/2009
Save Lantau Campaign—online request for formatted letters and comments to be digitally submitted to HKSAR Government Secretary for Transport and Housing	Concerns about impacts of road works for North Lantau Island related to Hong Kong-Macau-Zhuhai Bridge project	09/2009
Save Repulse Bay Campaign and DHK counterplan— online request for formatted letters and comments to be digitally submitted to Hong Kong Town Planning Board	Concerns about heritage protection, commercialization/privatization of public open space / beach at Repulse Bay	01//2009

Source: Compiled by author from information on DHK's website: www.designinghongkong.com. Last accessed 5 April 2012. Themes developed by author from DHK campaign content review.

to ICT practices. An info-sociational perspective on spatial issues highlights two areas: first, ICT-linked 'spatial transformations' such as scale shifting or toggling from a localized site-specific focus potentially to a city, regional or global scale (as Sassen's [2005] work posits); and second, ICT-linked 'associational alliance formations,' either solidified or created through digital tools or platforms.

ICT-linked multiscalarity suggests that 'going global' (via the 'World Wide Web') can have an everyday quality to it. For example, in employing ICTs to remediate public messages or counterplans DHK is also arguably reframing or rescaling what would otherwise be highly localized land use questions. This is notable in DHK's various digital artifacts such as e-news theme, and e-letter appeals (see Tables 5.3, 5.4, 5.5), the 'Hong Kong public space forum' (online), CitySpeak videos—as well as in the manner in which DHK links site-specific issues to

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holistic or 'big picture' questions about policies and the governance of urban space, design and the environment. This suggests not only digital access to wider assemblages of materials about DHK, but also wider potential audiences in Hong Kong or beyond. Here research by Quan-Haase and Wellman (2005: 231) on the daily ICT-linked behaviors in organizations suggests that such practices can be understood as forms of 'local virtuality,' as well as 'glocalized,' hyperconnected, or globally intertwined. Laguerre (2005: 171) refers to this as the, "virtual embodiment of the global city."

Although primarily intended for local audiences, a DHK issue mediated by ICTs which targets a local concern such as a site-specific rezoning may therefore generate interest outside of a specific neighbourhood in Hong Kong at the same time remaining available or accessible at a later date for others in Hong Kong (including researchers), as well as a potential audience through the Internet. Thus, rather than being a static or hard to access paper text—that only researchers in civic associations may be interested in, once remediated via ICTs public forums, counterplans or e-mail protests can be directly linked in time and space to the key issues at hand. More on how such digital approaches may be altering civic environmental practices will be discussed in the integrated analysis of all six cases (found in Chapter Eight).

5.2.3.1 Opening debates about urban space: on the ground *and in cyberspace*

The concept of the 'spider web' of linkages that DHK's CEO discussed was also related to the debate about open space and public space issues in Hong Kong, particularly in 2008. This was precipitated by a 'public access / space in private developments' legal dispute at Hong Kong's Times Square and highlighted by the work of activist and arts groups such as 'Local Action' and 'FM Theatre Power' (*SCMP,* March 5, 2008). According to the CEO, the issue of access to public space in locales other than Times Square arose in public discussions (including in a DHK-sponsored CitySpeak forum on the topic in 2008). Later face-to-face and online publicity continued to generate debates about public space issues in Hong Kong (Interview 12/23/09). As the Hong Kong Government's Development Bureau responded to the public space issue by calling for a study, DHK continued to encourage public deliberations.

In continuing to track the issue, the following year, DHK hosted a public forum 'City Speak XIV' on the urban public space issue ('Beautiful City, Ugly Places' in November 2009). In the lead-up to that forum, a photo exhibition on public space was held from November 18-25 in the gallery adjacent to the regular CitySpeak forum location. Linked to these events and the public space discourse, DHK launched the website, 'Hong Kong Public Space,' which features an online photo gallery encouraging registered users to upload, share, comment and vote on digital images that reflect 'beautiful' and 'ugly' public spaces in Hong Kong.[193] Besides encouraging people to experience, record and take an interest in Hong Kong's diverse urban and rural spaces, this site

[193] Available at: http://publicspace.designinghongkong.com/index.php/background.html. Last accessed 5 April 2012.

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Table 5.6: **Degree of importance attached to the overall uses of ICTs in DHK's organizational-participatory-spatial practices**

ICT-linked area of use	high	moderate	low	none	n / a
strengthening internal activities	___	■	___	___	___
strengthening external activities	■	___	___	___	___
creating new spaces for public participation	■	___	___	___	___
providing tools for civic activism & mobilization	■	___	___	___	___
enabling greater geographic reach	■	___	___	___	___
increasing potential alliances	■	___	___	___	___

Source: Question #17, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia' (Hong Kong, Singapore, Taipei). The question was phrased as follows: "In your opinion how important are the overall uses of ICTs to your association in the following areas: [areas noted above in far left column] High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable." (Sadoway 2011).

has a participatory aspect in that it encourages crowd-sourced digital reporting and evaluation of urban spaces issues. For example, an extract from the Hong Kong Public Space website states:

> *"Squeezed between the mountains and the sea, and competing with high-rise buildings and busy freeways, public space in Hong Kong is constantly taking on new forms. But how much public space do we need? How should it be managed? Who should own it? How can we use it? When is it open to everyone? How should it be designed? What is good public space? What is bad public space? We will be organizing events, publish articles (send us yours) and you can let us know what you think by uploading your pictures, of what is good and what is bad. In the meantime, feel free to comment on the existing photo gallery"* [194]

Although few comments—aside from spammers—have been added to the gallery images, the intention of the site was to support of the events and discussion in 2009. More recently in 2011, DHK's CEO became involved as an advisor to a newly formed civic association whose focus is on public space—Hong Kong Public Space Initiative.[195] Debates and the need to seek consensus about public space issues in Hong Kong, have therefore not only been integral to shaping DHK's ideals and ideas, it has helped to shaped 'issue networks' about urban spaces as the examples above have demonstrated. ICT-linked spatial practices in the info-sociational model, as this example illustrated, can also be seen as closely related to an organization's 'issue

[194] Available at: http://publicspace.designinghongkong.com/index.php/background.html. Last accessed 5 April 2012.

[195] Founded by a group of young scholars, the aims of the 'Hong Kong Public Space Initiative' (HKPSI) are two-fold: "aising Hong Kong people's awareness of public spaces and their benefits through providing information and a platform for ideas exchange; advancing education on public spaces through contributing to academic studies" (HKPSI website, http://www.hkpsi.org/eng/aboutus/aboutus.php. Last accessed 23 March 2012).

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networks,' including its socio-political priorities. Such networks can also be explained as what Sassen (2004: 655) refers to as an emergent 'community of practice'; that "creates multiple lateral, horizontal communications, collaborations, solidarities and supports." Although the community of practice—such as the public space alliance identified above—suggested here is within the global city, it none the less exhibits community-building qualities.

5.2.3.2 Online maps: toggling from the site *to the city-region*

Another DHK experiment related to urban spatial issues—The Designing Hong Kong Map—was a Google Maps 'mash-up' linking spatial sites to text and web links about Hong Kong land use issues in which DHK was involved (Interview 11/19/2010). After this short-lived experiment, however, DHK became a 'supporting organization' (along with four other civic associational groups) for a Geographic Information System (GIS) land use map and watchdog initiative called the 'Citizen Map.' At the time of writing, this effort, hosted by a Hong Kong commercial media group, was prominently linked on DHK's main website (see: citizenmap.scmp.com. Last accessed 3 December 2011). The CitizenMap website—which encourages users to upload digital images and geographically situate images (map 'mark ups') or reports of land use issues, or provide peer commentaries—apparently has more features than the former DHK Map such as e-mail subscriber alerts (about sites of concern), so the decision was made to support this ICT-linked spatial platform. The focus of CitizenMap remains on environmental destruction and land use issues throughout Hong Kong's urban and rural environs (Interview 11/19/2010). These mapping platforms, invite public attention to spatial issues not just by a visual image, but rather from a 'bird's eye' perspective of the city or region (or beyond). This arguably identifies with Sassen's (2005) arguments about how ICT uses in civic associations can transform the 'local as multiscalar.' Although Sassen's focus tends to be on how local civic associations can—through ICT practices—more readily shift geographic contexts, particularly to a global scale, the argument is of relevance for ICT-linked tools like Citizen Map (which permits a 'zooming in and out' from the site specific scale to a city-region scale) (Figure 5.2).

Notably, two other cases in this investigation feature the use of online maps for citizens to identify local land use concerns or 'hotspots'—the second Hong Kong case, Conservancy Association's 'Hong Kong Rural Land Devastation Map'; and the case of OURs Taipei, which has developed and hosts the 'Burning Map Network.' Besides encouraging crowd-sourced public input, a common feature of these digital maps is their ability to 'scale toggle,' providing a spatial cognition perspective of the 'big picture' in parts of the city and at the city-region scale, providing perspective on the linkages between urban space and contentious land use sites or situations (as well as encouraging users to make links to broader policy issues). The info-sociational model suggests that such spatial transformations can occur when civic associational uses of ICTs enhance 'geographic reach' (i.e. going beyond the local) or triggers scalar or geographic conscious strategizing. The examples cited above, illustrate how ICT experiments remains heavily dependent on user interests, and individual participation (in aggregate referred to as 'crowd sourcing'), as well as on the initiatives of civic associational alliances.

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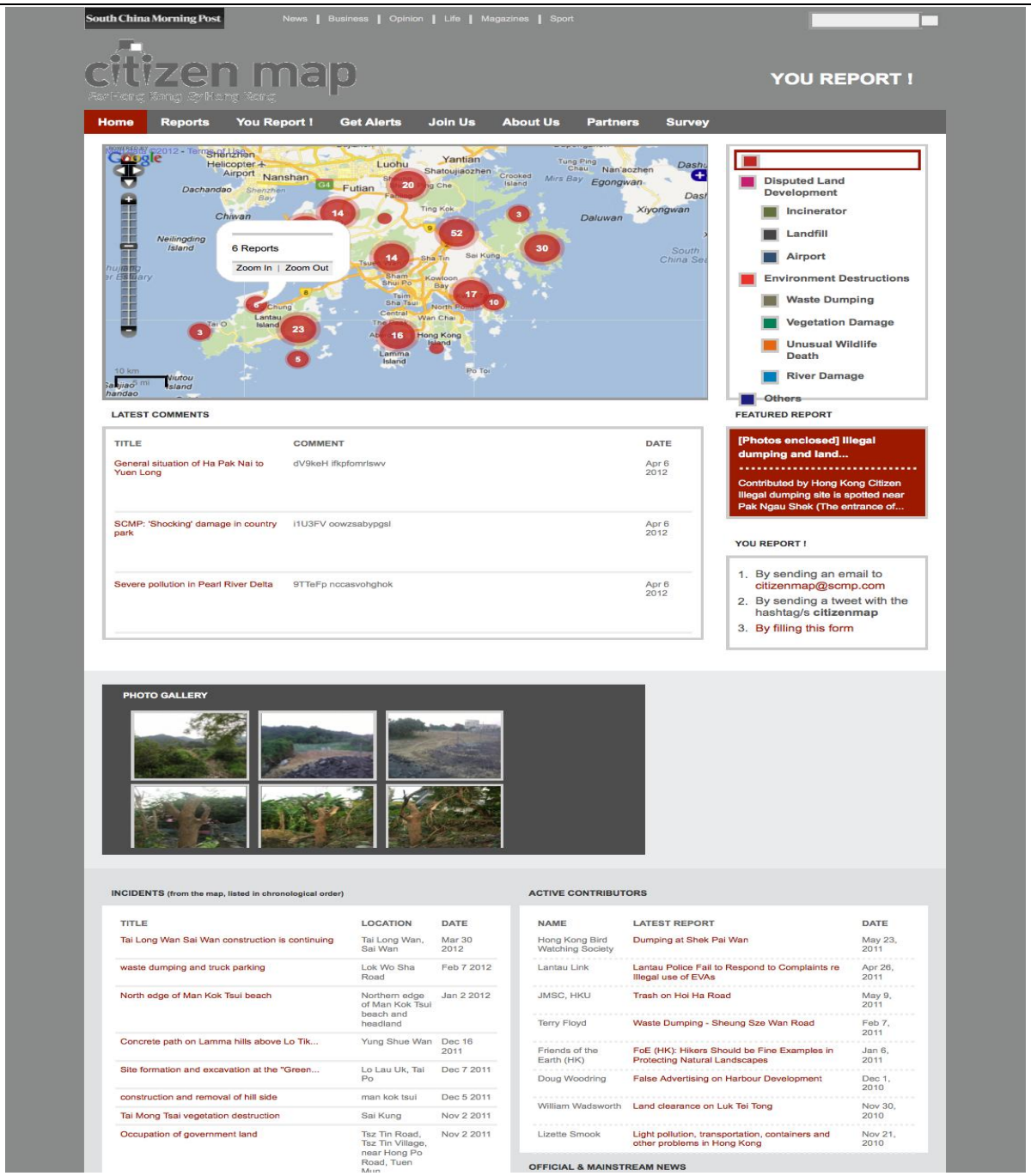

Figure 5.2: **CitizenMap, a civic-cyber tool for flagging Hong Kong land use concerns**
Source: CitizenMap, *South China Morning Post*: http://citizenmap.scmp.com/main. Last accessed 7 April 2012.

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5.2.3.3 Global connectivity: counterplanning & alternative city visions

The International Central Waterfront Design Competition—a half-year project launched by DHK in May 2007—provides an example of global-local (g/local) spatial transformations. This limited-timeframe 'international urban planning and design competition' involved the participation of 311 design teams in a HK$1million juried publicly-exhibited competition. The aim was to create counterplans to what was seen as the HKSAR government's pre-destined or fixed design agenda for the waterfront (Interview 7/27/09). A media briefing dated May 29, 2007 from DHK suggests that:

> *"This [design] competition seeks creatively to assist the government and the city, define the character and identity of the front door to Asia's World City: the Central Waterfront. The site area for the competition runs from the Four Season's Hotel to the Hong Kong Convention and Exhibition Centre. The competition is intended to support the Central Reclamation Urban Design Study which is currently undertaken by the Planning Department of the Hong Kong Government for the same area. The ideas generated will be made available to the Government, the Town Planning Board, the Legislative Council, the Harbour-front Enhancement Committee and the community at large"*
> (www.designingkong.com/designcontest/events.php. Last accessed 5 April, 2012).

In creating a civic space for public engagement on urban design—both in virtual and on-the-ground spaces—alternative visions for Hong Kong's waterfront emerged from around the globe (including from overseas Hong Kong designers) with energy efficient, people and environmentally-friendly designs (Figure 5.3). As the jury report for the competition suggested:

> *"The Jury regarded the competition as a critical reflection on current planning policy practice and development practice in Hong Kong. The schemes selected offer such a critical view"* [emphasis added]
> (www.designingkong.com/designcontest/events.php, accessed 5 April, 2012).

The competition itself provides an illustration of multiplexed (or blended) uses of ICTs in that administratively a dedicated website was used for registration, site overview, design briefing materials, downloadable 'autocad' (design software) packages, request for proposals details and the competition structure; and the public were asked to review entrants and "vote, rate and blog" comments on the various designs online. In addition, physical displays were shown in various venues in the Hong Kong.

The competition site also served as a vehicle for DHK to put forth its own application for detailed amendments to the Central Waterfront zoning arrangements, including a DHK request for online support (www.designinghongkong.com/v2. Last accessed 5 April 2012). DHK's CEO also claimed that the 2007 competition may have helped spur the increased use of community-based consultation in relation to government's role in land use planning and design

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processes.[196] Although the waterfront designs were not generated by the community—but rather international design teams—the open competition with its physical and online components involving public input illustrate one method for provoking public discussion and debate about land use issues. That such a high visibility international event could be organized through the efforts of a relatively small civic group illustrates how ICT-linked approaches can complement the ideals of civic environmentalists in transforming spatial practices in the city.

5.2.3.4 Alliances, organizational practices & e-tools

From the beginning much of DHK's work, as was noted earlier, has involved networking and alliance or coalition-building of the type identified by Sassen (2002). This involves, for example, inviting other civic associations to serve as panellists at CitySpeak forums; cross-posting and sharing information on social media sites and through email lists; jointly drafting letters of concern on behalf of multiple groups; developing joint proposals or counterplans and so forth. An example of a Hong Kong civic (and cyber) alliance, which DHK was involved with is the case of the 'Tung Chung blog'—which was hosted by DHK—and which focuses on issues related to the proposed Hong Kong-Zhuhai-Macao bridge where 8 different groups come together (Interview 12/23/09; also see: http://dhk-tungchung.blogspot.com/. Last accessed 1 December 2011).

One thinks of civic environmentalist alliances being formed to oppose or develop counterplans against a development proposal or state policies and actions. However, it was also suggested by the CEO that despite the weaknesses of Hong Kong governmental civic engagement processes, that these were to some extent enabling networking (and potentially alliance-building) amongst civic environmentalists:

> *"Everybody has their own networks […] some of the green groups they don't even want to talk to each other […] What is good actually is the increasing number of public consultations helps bring more of these people in the same room; you keep meeting people, certain people, all the time, because every time you go to one of those consultations they show up as well; so that helps the network"* (Interview 12/23/09).

DHK's CEO also spoke about the transitions between on/offline networking platforms and trust-building mechanisms: "The Internet, email [is] used the most, because it is efficient, immediate and quick […] but, that's not where you meet somebody." He went on to note the importance of networking recommendations: "you meet through the Internet because somebody put you onto a cc. list and therefore you start communicating on that platform […] but you trust them because they've been put on the cc. list by somebody else" (Interview 12/23/ 09). Thus the

[196] The CEO also suggested that DHK would also like to further experiment with computer-generated urban design visualization—such as 3D scenarios—although he noted that time and financial resources remained key limitations (Interview 11/19/2010).

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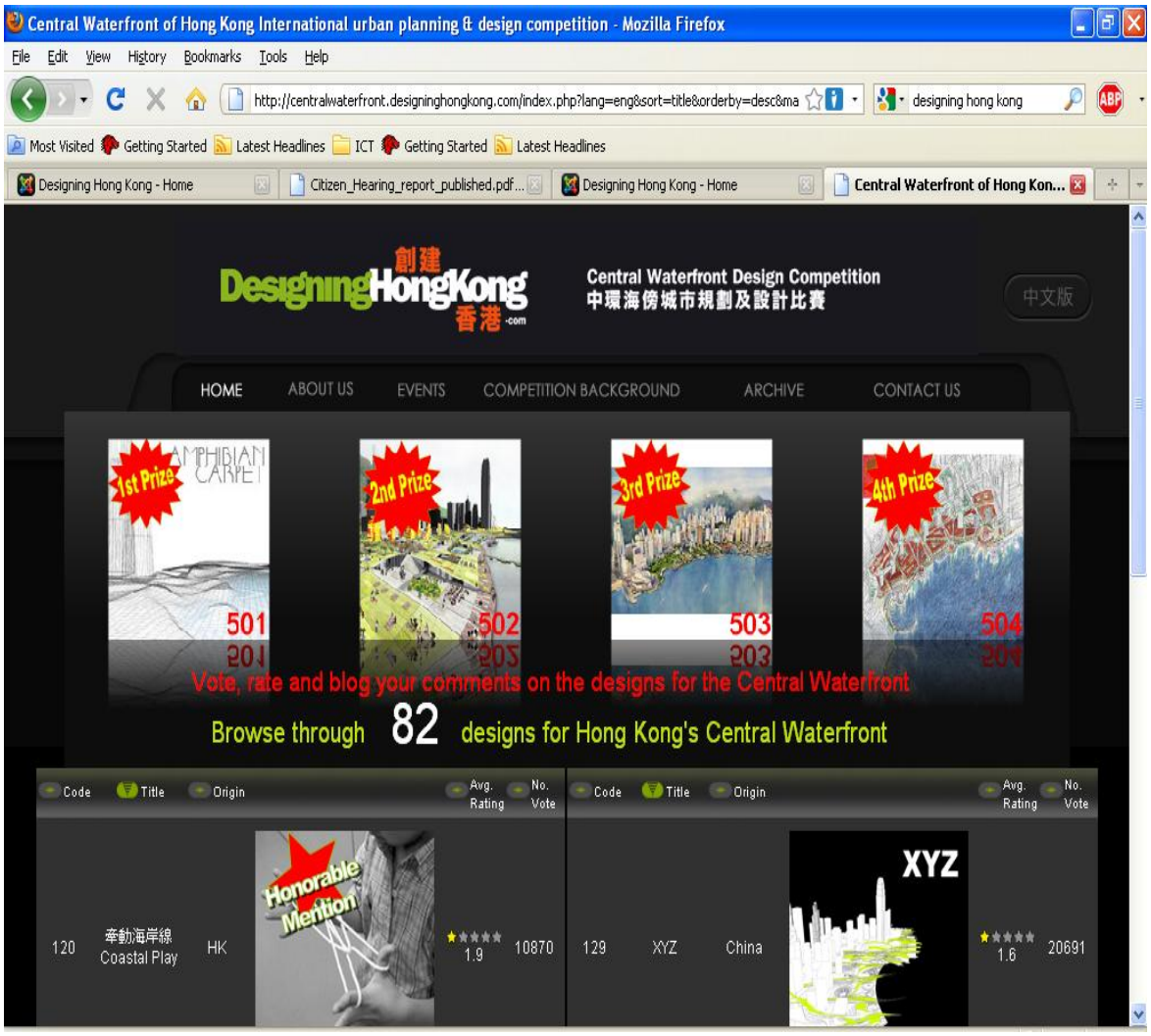

Figure 5.3: **Screen shot of *Designing Hong Kong's 'Central Waterfront Design Competition.'*** Source: originally posted on the *Designing Hong Kong* website: http://centralwaterfront.designinghongkong.com/. Last accessed 1 December 2011.

process of eventually connecting face-to-face for sharing ideas (the author suggested 'memes') remains critical, as does networking at conferences and forums in an urban environment like Hong Kong: "because this is such a dense city that [sharing memes] is extremely powerful," the CEO suggested (Ibid.). Again this echoes Sassen's (2005: 662) theorizing about the importance of 'communities of practice' shaping a wider trans-scalar awareness beyond the local civic space.

The DHK case identified the catalytic importance of networked relations—both face-to-face and digitally—in raising concerns; in questioning; in countering 'business as usual' projects and plans; as well as in building a forum for civic discourse, new alliances and alternative visions of urban design, land use and sustainability in Hong Kong. The examples of civic alliance

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formations discussed above (and throughout this case) can be understood through the info-sociational model, particularly framed through the concept of 'civic intelligence' (Schuler 2001) and 'situated individuals' (Keck 2005: 46) or 'obligatory passage point' (Bach & Stark 2005). Civic intelligence, Schuler (2001: 179) suggests is a collective intelligence project for addressing socio-economic and environmental issues built upon civic networks of groups and individuals (including, potentially ICT uses) 'situated individuals,' Keck (2005: 46) identifies as actors with 'individual and institutional linkages' who shape and are shaped by networks (including their identity). In some respects the CEO of DHK can be seen as such a 'situated individual' as well as a being an active participant in the collective alliance building project of seeking ways to address socio-economic and environmental issues in Hong Kong.

Another group which has long been involved in this mix of issues has been Hong Kong's Conservancy Association (CA). The next case narrative examines CA's work, particularly how its uses of ICTs are being related to its longstanding civic environmentalist objectives.

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5.3 Conservancy Association's (CA's) longstanding environmental networks

> *"From the beginning [1968-69] CA has taken on a dual role as both critic and partner of the government. Starting with pollution caused by the tanneries at Shueng Shui, CA acted as a vocal environmental watchdog putting pressure on the government. Its role as a pressure group was so prominent that later in 1979 it was revealed to be under the watch of a secret government body [in the then Colonial administration] know as the Special Committee on Pressure Groups"*
> —'The making of Hong Kong: 40 years champion for the environment' (Conservancy Association 2008: 10).

In a chronology commemorating the Conservancy Association's (CA) fortieth anniversary in 2008, a collection of 139 distinct examples were cited to demonstrate its diverse role in urban sustainability activism and alternative policy campaigning.[197] These included the CA's ongoing push for: assessing the impacts of urban development on the environment; public education about the impacts of unwise modes of development on built and natural heritage; and raising watchdog concerns about both the state and the fate of Hong Kong's livability.[198] The chronology identified CA's involvement across a spectrum of conservation, sustainability and spatial / land use issues—from passionate debates about rural development in Hong Kong's New Territories and New Towns, to marine protection issues; from natural and built heritage conservation issues in the heart of Hong Kong, to hotly contested planning proposal involving high density urban development. Such diverse ideals are also expressed in the CA's mission statement:

> *"The Conservancy Association, founded in 1968, is the non-governmental environmental organization with the longest history in Hong Kong. As a champion of sustainable development, we are dedicated to the protection of the environment and the conservation of natural and cultural heritage. Our mission is to enhance the quality of life of both this and future generations, and to ensure that Hong Kong shoulders her regional and global environmental responsibilities. We achieve this by advocating appropriate policies, monitoring government action, promoting environmental education and taking a lead in community participation"* (Conservancy Association 2008:214; CA website http://www.cahk.org.hk. Last accessed 19 March 2012).

The CA's work has involved balancing environmental advocacy and activism with proactive analysis and education—demonstrable two distinct areas. First, the CA's core activities focus

[197] This history chronicles a series of case snapshots structured in four broad phases of CA's numerous activities in Hong Kong. These snapshots examine in greater depth CA's role in conservation, sustainability and spatial issues, including: 'Early Encounters' (~1968-1979); 'In Transition (~1980-1997); 'The Sustainability Challenge (~1997-2003); and 'A New Direction?' (2004-2008).

[198] The Chair of the Conservancy Association, Betty Ho, reflected upon The CA's forty years of work: "It is a testimony of how The Conservancy Association came into being, how we pioneered the environmental movement and how we advocated for heritage conservation as well as sustainable development. There are cases where we succeeded, cases that we failed, lessons that we learnt and efforts that we paid for finding the sustainable path to the future" (The Conservancy Association 2008: 1).

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on: “being a constructive pressure group monitoring policies on environmental protection” (CA website, http://www.cahk.org.hk. Last accessed 19 March, 2012).

Second, rather than simply being reactive then, the CA has attempted to proactively formulate analyses, alternative or counterpolicy options; to undertake environmental education and public awareness activities; and to facilitate or support the work of allied ‘community groups or organizations’ (CA website, Ibid.). The discussion here will examine how these watchdog and counterplanning tactics mesh with the CA’s increasing uses of information communication technologies (ICTs). In turn the info-sociational model will assist in examining how these ICT-linked tactics are related to CA’s practices. For example, how do the CA’s mission and extensive range of activities shape what Marres (2006) calls ‘issue networks’ and what Bach and Stark (2005) refer to as ‘actor-networks’? This introduction and the organizational section below, employ these two concepts in the info-sociational model—extending the analysis to examine how and why local civic environmental groups like the CA are using ICTs and how this may be reformatting and reconfiguring their organizations as ‘issue’ and ‘actor’ networks.

The same staffer characterizing a distinct shift from the initial twenty years of the CA’s work (1968-1988), compared with the most recent two decades of its activities (1989-2009). It was, for instance, noted how the 1980’s represented a critical juncture when the concerns of Hong Kongers about their natural and built environment altered the CA’s issue network.[199] The mid to late 1980s was also a critical period for CA and for Hong Kong environmentalism because a new set of green associational actor-networks were forming in response to the some of the adverse impacts of economic development; and at the same time the then colonial administration created the Hong Kong Environmental Protection Department (in 1986). The staffer discussed these changes including their internal influences in the CA:

> *“It’s quite a drastic change in the late 80s; the [Conservancy Association’s] office became more powerful in terms of number of staff and the ability of raising funds in Hong Kong. In the 1980s […] Friends of the Earth, WWF, even Green Power were established at that time. So, therefore the atmosphere, I mean the general momentum, of environmental protection had been established”* (Interview 12/23/2009).

Another wave of civic groups was established in the new millennium in response to urban environment and heritage conservation issues in Hong Kong, such as Green Sense, Greeners Action, InMediaHK, Civic Act-Up, V-Activists, the SEE Network, amongst many others.[200]

[199] For example, he noted, “[S]tarting in the 1980s we started to change because as you know Hong Kong changed a lot, in terms of the economic developments. So we started to think of the resource conservation, energy conservation as well as the nature conservation and heritage conservation. So we became, a broad, I mean issue wise, a broad sense environmental green group in Hong Kong” (Interview 12/23/2009).

[200] The Conservancy Association—and its spin-off organizational initiative the Conservation Association Centre for Heritage (CACHE)—claims to have played a key role in bringing heritage conservation issues into the public discourse in Hong Kong, including articulating alternatives to destruction or ill-conceived developments (Conservancy Association 2008: 155-174).

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How are the CA's longstanding ideals and ideas (manifested in its 'issue' and 'actor-networks' and in 'text and talk') playing out in its ICT uses? This includes texts like its Annual Reports and the talk of staffers in interviews. Moreover, how is the CA co-evolving alongside the ICTs it uses in its daily work? To address these questions further an info-sociational approach is employed to examine CA's organizational, participatory and spatial digital practices. This approach involves building a case narrative from two interviews with CA staffers (12/23/2009 and 7/14/2011); including observations in attending the CA's Fortieth Anniversary Conference in late 2008; and results of an online survey questionnaire (08/2011).

Such an examination will also convey how CA's amassed civic environmental knowledge and its unique experienced-based approach to Hong Kong civic environmentalism—accumulated 'civic intelligence,' as Schuler (2001) has termed it—has shaped and are shaping the Association's ongoing co-evolution with ICTs.

Table 5.7: **Degree of importance attached to various practices in the CA's current work**

Practices	high	moderate	low	none	n / a
watchdog practices	■	___	___	___	___
natural / built conservation	■	___	___	___	___
information & education	___	■	___	___	___
scientific research	___	___	■	___	___
policy lobbying	■	___	___	___	___
grassroots organizing	___	___	■	___	___
civil society alliance-building	___	___	■	___	___
government partnerships	___	___	■	___	___
green / social enterprise	■	___	___	___	___
business partnerships	___	___	■	___	___

Source: Question #2, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia'. The question was phrased as follows: "How important are each of these practices in your association's current work and activities? High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable." (Sadoway 2011).

5.3.1 CA's organizational practices

The CA, is a longstanding Hong Kong-incorporated non-profit environmental group (founded as a Society in 1969), as well as a registered charity for fundraising purposes. Reflective of the previously cited CA mission, this investigation in 2011 surveyed the importance the Association attached to a range of practices and found that watchdog, natural or built conservation, policy lobbying, and green or social enterprise were all considered to be of high importance by the group (Table 5.7). Notably information and education rated as being of moderate importance; whilst business and government partnerships, civil society alliance building, grassroots organizing and scientific research were considered of lower importance relative to the CA's other work and practices at that time. These priorities are also to some degree evident in the

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interviews with staffers and in the ICT-linked project priorities of the organization, as will become apparent in the three sections on organizational practices that follow.

5.3.1.1 The CA and technology: a co-evolving actor-network and issue network

Embedded organizational processes, routines and artifacts have shaped the nature and trajectory of the CA as a Hong Kong civic actor-network. These influences were well before the rise of relatively accessible and affordable ICTs in Hong Kong. Arguably, such a shift began to alter civic associations' internal and external practices and the public's digital expectations—such as a need for an organizational web presence; for e-connectivity; or for the use of social media platforms and other ICT tools. The CA's directorship, staff and membership (including volunteers) as a civic group or non-profit civic organization can therefore be understood as an environmental actor-network—that is a bundled 'assemblage' (as actor-network theory terms it) of human experiences, processes, procedures, projects, policy positions, ideas, ideals and practices—which collectively has shaped the manner in which the CA adopts, modifies or rejects ICT uses. An actor-network approach posits the interconnections with human and non-human actors (e.g. Czarniawska & Hernes 2005; Latour 2005) in the shaping of a technology. Thus, in addition, to the focus in this section (organizational practices) on how ICTs are being 'translated' and understood (or play themselves out in a 'technological drama') in CA's internal and external organizational practice one arguably could extend this scope to tracing the assemblages of actor-networks involving individual CA projects (including human and nature [non-human] actors).[201]

As the staffer responsible for ICTs suggests, in the context of a longer discussion below about the CA's ICT experimentation with a geographic information system: "We did not choose the technology. It's the issues that choose the technology" (Interview with CA staffer 07/14/2011). He was referring to the many land use issues in Hong Kong which required a means for tracking and mediating their presence. In many respects this point illustrates the co-evolutionary nature of the CA and its pragmatic, yet experimental ICT practices, embedded as they are in a civic group with longstanding civic networks. The CA's co-evolution with ICTs has parallels to Bach & Stark's (2005) take on actor-network theory; and Marres' (2006) 'issue-network' concept focused on civil society groups use of ICTs. Both will be touched on here.

Processes and procedural formalities (such as the CA's Annual General Meetings or the practices of its Board of Directors) and linked artifacts (such as the CA's core and project websites, [e]newsletters, [e]annual reports) provides insights into how and why the CA, as an environmental actor-network, has increasingly employed ICTs in its work. Understanding and translating the story of ICT practices at CA therefore involves comprehending the socio-

[201] This would need to involve a micro-mapping of relationships and networks such as on the ground staffers, administrators, funders amongst others; as well as artifacts (such as project documentation, project reports, project budgets/expenditures and so forth); technologies (field instruments such as digital monitoring, measuring devices and so forth); as well as species and ecosystems (ranging from specific species, habitat ensembles, local ecosystems or bioregions and so forth). Such a detailed mapping of actor-networks in a singular project or sub-project is not the purpose here, thus the scope has been limited to broadly identify organizational aspects of ICT practices where arguably an actor-network perspective can provide insights.

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technical significance of the CA's voluntary leadership; of the interactions between its directors, committees, staff and publics; and of the dynamics and ideals (and political contestations) involved in its ongoing work to protect, conserve or restore species and their habitats (or built heritage and its environs). Thus, ICTs only have until recently played a part in the evolution of the CA as a complex and an essentially *Hong Kong-focused* civic actor-network (despite some of its outreach projects, such as in Mainland China).

For example, during the last two decades, a key shaper of the CA's contemporary organizational culture has been an environmental 'train-the-trainer' empowerment model. The CA's early emphasis on environmental education notably influenced a group of university student-participants in its 'Environmental Pioneer' scheme (piloted during the 1970s). Subsequently these individuals later returned—often with significant professional or education talents—to serve the CA as volunteer directors and committee members. Thus these 'returnees' who initially benefited from the CA's early environmental education initiatives were to become, as one staffer described, "pillars of the association" (Interview 12/23/2009).[202] The staffer further described this mentee-returning-as-mentor process:

> *"We had like 10 or 20 [students] being trained at that time. We had an environmental pioneer scheme at that time […] And then in the 80s they all came back to support the organization. And they also, I would say—most of them are environmental workers like Town Planners or Ecologists—they came back and they joined the association at that time. So we got very strong support at that time; and the Association being specialized in a number of issues at that time like town planning issues, nature conservation issues, energy issues. So being from a very weak organization, in terms of manpower, suddenly in the 80s we, have great support from these, you know, returning [trainees]"*
> (Interview 12/23/2009).

The importance of an early environmental education initiative therefore played an integral role in shaping the CA as an actor-network configuration.[203] Arguably it helped to define an 'obligatory passage point' (OPP) (Callon 1986: 205; Bach & Stark 2005:39) for students, akin to a rite of passage for them becoming enmeshed in the activities of the CA. The same staffer as above also suggested that recruitment of membership in general—and for the Board of Directors and committees in particular—has continued to be closely linked to the CA's early ideals and ideas, including a commitment to environmental public education.

> *"We try to invite people who share our mission and vision to join to our board. At the same time we work on our staff level as well, we try to disseminate message[s] through a lot of education programs to the community and schools*

[202] 'Environmental Pioneers scheme' mentees who subsequently served as CA mentors, included for example ex-CA Chair Betty S.F. Ho, ex-Chai Dr. Ng Cho-Nam, Dr. Hung Wing-tat, Simon Wei and the late W.K. Chan.

[203] To use an approximate cultural analogy in East Asian society, (particularly where a social safety net may be lacking) the importance placed o the role of an investment in youth's education is seen as a 'future investment' which may provide support to the aging parents or beyond and be of benefit to the community as a whole. In a roughly similar manner CA's earlier human resource 'investment' in training 'Environmental Pioneers' appears to have provided the organization with an important future human resource to tap for their leadership, knowledge, expertise and experiences.

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so that they all know that how the Conservancy Association works in regards of many environmental issues, how we position ourselves. You know in Hong Kong we've got a lot of environmental NGOs here. And we have [a] different focus" (Interview 12/23/2009).

The CA's annual reports—an actor-network 'artifact' available on the CA website—provides another window into its ongoing and recent policy positions on a range of specific Hong Kong urban or environmental planning issues.[204] In 2010-11, for example, these were categorized under six distinct themes: conservation (tree, nature, heritage and energy); current affairs; environmental education; waste reduction and recycling; and China projects. As was suggested above, the CA Board of Directors—which nominally gathers monthly or bimonthly—consists of academics and professionals such as engineers and planners, provides transdisciplinary guidance to the organization and its committees. For example, in 2010-11, the CA's Board consisted of 14 directors (CA Annual Report 2010-11: 2011).[205] Although one staffer noted that attendance can sometimes be problematic at these meetings (Interview 07/14/2011); an interview with a second staffer suggested:

"Well actually they are a very active Board. We have six Board meetings every year. And most of them [directors], you know, heavily participated in our discussions about the operation of the organization. They do give us lots of advice and many perspectives, such like operational, or even direction, and sometimes on the current affairs issues" (Interview 12/23/2009).

The range and focus of the CA's active working committees—composed largely of Director-conveners and committee members—provides a flavor of the diversity of CA's ongoing project and 'issue network' priorities (Table 5.8). The CA also taps into its diverse directorship and dedicated voluntary membership base for their expertise and passion in its varied initiatives. Crucially, the Association's core staff of around twenty people (including 4-10 interns) provides specialist skills and knowledge on a number of fronts, including: non-profit management, conservation campaigns, environmental education, project management, publications, membership affairs, finance or accounting and administration.[206] This mix of skilled volunteers and staff characterizes the nature of the CA as an evolving actor-network because as new projects and issues arise, people and technologies are deployed in support of these. This is akin to the, "distributed and recombinatory logic" which Bach and Stark (2005: 49) describe as a "skilful blending of centralization of decisions, cooperation and competiveness." This type of

[204] This includes designated planning areas comments, proposal or counterplans; expressions of concern, objection or critiques on specific planning applications before Hong Kong's Town Planning Board; concerns with environmental shortcomings in a public engagement process (Lok Ma Chau Loop) (Conservancy Association 2011: 18-19).

[205] A staffer noted that by law, "only members can be [constitute] the board of directors," and that, "they can be [CA] annual members or [CA] lifelong members" (Interview 12/23/2009).

[206] According to the CA's 2007-08 listed staff (excluding CACHE) included 22 people while in 2010-11 listed 23 people as staff (excluding CACHE)

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logic, they suggest, involves the blending of centralization and decentralization as well the need to balance sometimes contradictory social (mission), and business values (efficiency).

Table 5.8 **: Conservancy Association (CA) committee purposes or activities**

CA key committees 2010-11	Committee purpose & key activities
Current Affairs Committee	meets weekly to provide key input (as a 'green monitor' / 'watchdog') on current policy issues, plans and key conservation-related events (in 2010-11 this included a focus on combating climate change; study [response] on 'Action Plan for the Bay Area of the Pearl River Estuary')
Fundraising Committee	gives direction on corporate, government or non-profit fundraising (meets every two months)
Membership & Branding Committee	devises approaches for attracting people to CA's programs and campaigns and also focuses on services for members
China Committee	focused on environmental issues and CA-sponsored projects located throughout Mainland China (for example in 2010-11 for example this included a biogas village toilet project [Dehong, Yunnan]; and ongoing sponsorship for 'Nature' Magazine); along with ongoing reforestation and forest protection projects (under the 'Green Gift to Our Beloved Country' program initiated in 1997)
Conservation Committee	involving scientists and concerned members of the public focused on nature and heritage conservation issues; the committee and CA 'advocate anticipatory environmental policies;' a cross-sectoral conservation policy.
Energy Committee	most recent committee (formed in 2009) to devise energy conservation and savings projects and energy policy positions (in 2010-11 for example this included energy audits & system upgrades for seniors homes / daytime social centres)
Board of Conservancy Association Centre for Heritage (CACHE)	spin-off organization (founded by CA in 2000) which focuses on a wide range of heritage conservation education-related issues

Sources: Compiled by author from an interview with a CA staffer (12/23/2009) and from categories in *The Conservancy Association Annual Report* 2010-11 (2011); CA website: http://www.cahk.org.hk. Last accessed 19 March 2012).

The Association has physically has operated out of a single office space, while its CACHE initiative employs an entirely separate office and exhibition space. In response to queries about how ICT practices may be altering the physical make-up of civic associations—as Laguerre's (2005) work on the digital impacts in organizations identifies—a staffer cited the example of Hong Kong-based Greeners Action (a local civic environmental group), which apparently experimented with a virtual organizational model (during their formation), but later opted for a 'traditional' face-to-face arrangement.[207]

> *"Back in the past, twelve years ago they don't have their own office. They rely on ICTs to coordinate the different staff, [such as] MSN. But now they have their own office. So they've gone back to the traditional mode of working in the office"* (Interview 07/14/2011).

[207] Another example in Hong Kong of a civic association that initially opted for a virtual model is the group Civic Exchange which in an interview identified their limited experiment with a virtual/digital office experiment in the late 1990s because of their need for a physical office presence shortly thereafter (interview with Civic Exchange 3/10/2010). Also discussed in greater detail later in this investigation is the case of Taiwan Environmental Information Association (TEIA) and their experiment with a virtual office in Taipei in 2001 which lasted for six months and then was ended because of the need for face-to-face interactions between staffers, volunteers and the public.

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On the surface, the CA appears to rely upon the 'traditional' organization model of an office-based presence for its work, volunteer activities, and board or committee gatherings—despite the possibilities that ICTs could enable more remote or home-based uses.[208] The CA's traditional approach to fundraising and building its voluntary membership base also appears to involve 'recombinatory' and 'distributed' practices (Bach & Stark 2005: 48-49) pragmatically garnering volunteer assistance with ICTs. An example of such a contribution linked to ICTs was the development of the CA's first website apparently undertaken by a society volunteer in 1997 (interview 07/14/2011). With a base of approximately 2000 members—including a core group of twenty highly active volunteers—the CA has had active, and often passionate, membership contributions in many of its campaigns (Interview 07/14/2011). Notably this has similarities to the early development of the Nature Society of Singapore's initial organizational website(s) undertaken by volunteers with ICT experience—as is discussed further in Chapter Six.[209]

A diversity of membership support; corporate sponsorships and government-sponsored projects (e.g. through the EPD's Environmental Conservation Fund) and individual donations all appear to be historically important in the CA's diverse funding mix. [210] More recently this financial support was characterized as follows:

> *"In the past five years probably, let me give you an example, probably half the income would be from corporate sponsor[s], like thirty percent from government, and twenty percent from fundraising, the general public. When I say thirty percent from government it's from co-operation projects, it's a collaboration on mainly on project income it's not direct from the government"* (Interview 12/23/2009).

Both the CA's volunteers and staffers represent a diverse set of actors who employ ICTs for a wide range of internal and external networking purposes. For example, email and the Internet were especially considered "as tools" for communications by one CA staffer, including for "committee communication" and contacting members or other partners (Interview 12/23/2009)—illustrating Horton's 'reinforcement' email practices (2004: 743). Conservation or educational projects have also featured dedicated or specialized websites (separate from the CA's main website); along with social media uses and other ICT tools or platforms, as will be taken up further below. But how do the CA's dissenting critiques about a lack of integrated actions for sustainability relate to ICTs? Here the CA's pragmatic use of ICTs demonstrates

[208] In this regard the other staffer identified the importance of having a single venue for face-to-face interactivity between staffers, consultants, interns, volunteers, directors and committee members: "[A]s I can remember we don't have consultants work[ing] at home because it's not efficient. We do a lot of committee liaison in the office, so it's not easy to set up an office at home" (Interview 12/23/2009).

[209] The role played by volunteers (including 'relatives of the leaders, members or volunteers') in shaping or steering ICT practices in some local environmental associations has been observed in Dhakal's work in the context of Western Australian local environmental organizations (2011: 556; 561).

[210] For example, Hung Wing Tat and Chai Wai Kwan's, "Conservancy Association: The Beginning," (Conservancy Association: 2003: 3, 7-8) discusses the CA's early foundation support involving, "a membership drive and fund raising campaign," which in 1972 resulted the contributions of 111 individuals and 31 companies.

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approaches which not only link projects to policy critiques, but also increasingly in tandem with digital tools, applications and experiments, as the upcoming discussions reveal.

5.3.1.2 'Translating' ICT practices

How are ICTs being 'translated' in relation to the CA's actor-networks and artifacts delineated above? The staffer who has been responsible for ICTs (amongst other tasks) suggested that email was first employed by the CA in during the 1990s and its first website in 1997. Initially a free, overseas-based server was used by the organization however because of the CA's need local language services in 2004 the CA migrated to a Hong Kong-based server. At this writing the CA website (employing Traditional Chinese Script) also includes a wide range of English-language information, publications and campaign links.[211] In actor-network theory, as Bach and Stark (2005: 45) suggest, civic associations may be seen as 'sites of translation'—this can be understood as how their mission and activities are perceived by various publics; but how civic associations act as users, receivers, adopters and adapters of ICTs (i.e. how ICTs are viewed b their users and how are they effectively used).

Overall, the CA's 'translation' of ICTs can be characterized as a 'pragmatic path' whereby digital practices have (at first) been tentatively employed: initially for supplementing (rather than supplanting) or complementing longstanding non-digital or offline practices. In turn such ICT-linked pragmatism has been shaped by cost and time factors; along with the 'million fires to put out' syndrome which often pervades civic environmental actor-networks. However, access to basic Internet services appears to have posed fewer barriers to entry for civic environmental groups (and citizens alike) in Hong Kong than in some global locales—as Chapter Four discussed in terms of ICT accessibility and affordability—suggesting the potential, as the info-sociational model identifies, to extend regional (and potentially global) reach for civic associations (Sassen 2005).

The early stages of the CA's ICT uses and experimentation for internal practices (roughly 1997-2004) involved do-it-yourself (DIY) approaches including the uses of open source or collaborative shareware—often through the personal efforts of CA staffers and volunteers (Interview 07/14/2011). The example of a CA volunteer initially setting-up the CA's first website in 1997 was noted earlier. The staffer largely responsible for ICTs at the CA also suggested that coding or managing software, as well as making the correct ICT choices were sometimes difficult for civic associations to manage (Ibid.).[212] Also exemplifying the CA's pragmatic approach to ICT practices, the same staffer notably had self-trained in web developer applications over a six month period (asp.net / Frontpage), so that he was sufficiently able to

[211] With the shift in 2004 to a local server, the CA home address was also shortened to its current URL: http://www.conservancy.org.hk (Interview with CA Staffer 07/14/2011).

[212] For example, the CA staffer discussed some of the up-front limitations of ICTs for civic-cyber participatory purposes: "One thing about NGOs is you don't have that kind of time and money you know to regularly do that kind of [ICT] experiment. Back to my one important point is the cost. The cost is very important not just in terms of money, but in terms of time and manpower" (Interview 07/14/2011).

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revamp the original CA website (Ibid.).[213] The revamped CA website was relaunched in 2004, the staffer noted, and it employs a basic template structure with one of the drawbacks the staffer suggested relating to the quality of the design. He added, "We don't have a dedicated person, so it's [design] hard for us to do" (Ibid.). The importance of retaining control over digital information flows on the CA website—posting, designing, formatting and framing—and more broadly in the organization appeared to be related to questions about placing limitations on volunteer and staff involvement in ICT practices:

> *"We really want to have some control. We have one or two staff [involved in the website]. That way we have control where the information goes on the website"* (Interview 07/14/2011).

The issue brings to mind concerns about 'supernodes,'—essentially OPPs—where ICTs mediation and image-making control may unintentionally (or possibly intentionally) become concentrated amongst a relatively small group of ICT-savvy insiders (see: Weber [2005]; King [2006]). As will be further discussed in the Chapter 8 analysis this appears to have similarities to issues raised in the Nature Society of Singapore's 'centralization vs. decentralization' debate about the use of subsidiary websites by other parts of the organization, including issues of associational identity or 'branding' (discussed in the case below). The CA staffer responsible for ICTs also noted that a number of separately sponsored CA projects—'three or four over the years' (Ibid.)—have each had their own independent webmaster and designated websites (linked on the CA's own website).[214] Examples of these dedicated venues include: a 'live a low carbon life' project; a 'tree lovers' program and related tree spotters blog. These are further discussed below in relation to participatory and spatial practices.

5.3.1.3 Co-evolving ICT practices: Today GPS, but no longer BBS

Intertwined hardware-software challenges are apparently being addressed by the CA employing a dedicated graphics person whose focus on ICTs was additionally part of their job description. The CA's 'pragmatic translation' of ICT uses has also continued to stress the importance of pre-existing face-to-face connections amongst the *staff-director-member-volunteer* actor-network—both as a live, pulsating network of social relations amongst civic conservationists; and as an approach or process for attracting new volunteers and members (including in environmental education such as workshops and field trips). Thus, despite an apparent plethora of technological choices available, the staffer responsible for ICTs suggested that grounded contact remained crucial in organizing and notifying members: "We still rely on face-to-face communications with our core volunteers" (Interview 07/14/2011). When asked further how the CA's uses of ICTs may have transformed over the years, the same staffer suggested, "Actually, internally there hasn't been that much change. All the basic technology is good for

[213] The staffer noted that CA's, "First website [was] done by a volunteer. [They] used a lot of Java. [programming language, not Java Script]. It was completely obsolete. Had to overhaul the whole website" (Interview 07/14/2011).

[214] Although the intent was to have 'one coherent design' because each of the project websites were externally sponsored, this was not necessarily the actualized outcome the CA staffer had suggested (Interview 07/14/2011).

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us." And while email has long been used, much of the internal communications apparently remains face-to-face because of the proximity of office staff (Ibid.).

Table 5.9: **Duration of CA's uses of selected ICT tools or platforms [years]** (Author 2011).

Use of ICT tools / platforms	11+ years	9-10 years	7-8 years	5-6 years	3-4 years	1-2 years	0-1 years	non use	unsure
social media page						■			
micro-blog								■	
active web site		■							
GIS map			■						
videos						■			
web logs (blogs)								■	
email discussion list	■								
web conferences								■	
e-newsletters									
SMS /phone alerts								■	
hosting e-petitions	■								
formatted e-letters								■	
online surveys or polls	■								
online forums								■	

Source: Question #4, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia.' The question was phrased as follows: "As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms? In 2001 or earlier; in 2001-02; in 2003-04; in 2005-06; in 2007-08; in 2009-10; in 2011; we do not use this ICT / or no longer use; not sure"(Sadoway 2011).

It was noted that one of the changes was that a Bulletin Board Service (BBS)—essentially a digital online discussion forum—is no longer used apparently because of its reduced popularity in Hong Kong.[215] Staffers (and sometimes volunteers or consultants) in the field do employ global positioning systems (GPS) (Interview 07/14/2011). Apparently cost reductions in GPS technology and interfacing with cameras (or other devices) has enabled greater usage in conjunction with CA-sponsored ecological surveys and tree planting projects (e.g. for cross-referencing lot numbers or coordinates for environmental hotspots of concern) (Interview 07/14/2011).[216] Here it is also worth identifying the CA's varied uses of a range of ICT tools or platforms, as Table 5.9 highlights. This includes the use of an online geographic information system (GIS) map ('The Hong Kong Rural Land Devastation Map') for over 7 years; as well as more recent uses of social media and online video postings (since 2009-2010); along with pre-year 2000 digital practices (website, email use, e-petitions and online surveys). Notably while

[215] For instance, Lam & Ip (2011: 42) suggest that, "In Hong Kong, discussion of public issues on the Internet came about as early as 1998-1999. The major platform at the time was the BBSes, spaces where users would share news information and discuss current affairs." In Hong Kong the popularity of BBSes was eclipsed by an interest in web discussion forums (2000-2004); followed by blogs, collaborative websites and online radio (2004-2008); and more recently social networking sites and microblogs (post-2009) (Ibid., 49).

[216] It was also noted that mapping information in Hong Kong remains prohibitively costly for environmental groups to access—essentially treated as proprietary data—according to the CA staffer. The staffer linked this issue to the need for some type of "information access ordinance" which would nominally provides increased open access to public information, including cadastral information (Interview 07/14/2011).

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blogging was not reported in this survey question, the use of tree blogging was identified in separate interviews and on the CA website—illustrating the limitations of surveying individual organizational members about an often diverse array of ICT practices employed (and institutional memories invoked) over time within an association.[217] Here the uses of cross-checks such as multiple member interviews and website reviews may serve to identify such discrepancies. How the CA employs ICT tools or platforms in its participatory and spatial practices will be the focus of the two sections that follow.

5.3.2 CA's participatory practices

Despite what has been characterized here as a 'pragmatist' approach to employing ICTs—driven by financial and temporal concerns about setting-up and maintaining, or staffing and volunteer cross-capabilities—the CA has continued to experiment with a number of participatory tools, including social media, an e-newsletter, online videos and environmental blogging. In addition, the CA's Hong Kong Rural Devastation Map and Mission Green's online map project, while treated here as an ICT-linked 'spatial practice', are also 'participatory practices' (in relation to the info-sociational model) because they encourage user or crowd-sourced commentary within digital-spatial platforms. More about the participatory aspects of the CA's ICT-linked practices will be addressed in the discussion which follows.

5.3.2.1 Experiments with participatory e-tools and other ICT-linked approaches

The CA has not been averse to experimenting with ICT participatory tools and platforms. While its Bulletin Board Service (BBS) is no longer in existence this earlier effort illustrated an interest in participatory or digital discussion about Hong Kong conservation issues. This to some degree has been continued in social media platforms—albeit in commercially-controlled platforms. Although email has essentially become an internal administrative tool in most civic environmental organizations, its early use in CA appears to have been important in environmental campaigning, organizing, lobbying and mobilizing efforts. For example, the Long Valley campaign in 2000-2001, in which CA volunteers and staff were key organizers, involved the use of a dedicated website 'for releasing news,' and for coordinating 'an online signature campaign' aimed at protecting an ecologically significant wetland ecosystem.[218]

Another example of CA's uses of ICTs—in this case for digital mobilization—was for organizing a 'flash mob' that focused on the protection of a uniquely co-evolved natural (trees) and built

[217] In addition, the lack of reference to 'SMS/ phone alerts' in the survey suggests that the CA member who completed the survey may have felt that since this was not considered a routine practice in the organization (despite the reported smart mob action regarding the wall tree conservation campaign [1 July, 2005, Forbes Street]), that it did not warrant being considered a regularly used ICT tool / platform. An alternative explanation would be that SMS alerts (including for flash mob type actions) may be being shared amongst some members of the organization with a focus on specialized issues, but not centrally organized or sanctioned by the organization. Such practices were separately identified, for example, by an NSS member-director who suggested that some members of sub-groups would send SMS alerts to members with shared interests when particular species were spotted.

[218] Technically this involved the CA facilitating the establishment of a 'Joint University Save Long Valley Group,' which in addition to establishing a dedicated website and online petition also developed a position paper (Conservancy Association 2008: 125-126).

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heritage (stone-walls) on Hong Kong Island. This event has been described in the CA literature as follows:

> *"A 'flash mob' gathered on 01 July 2005 at Forbes Street just underneath a line of well-grown stone-wall trees. The flash mob had one message: preserve the trees and stone-wall. CA was the organizer of the flash mob. The gesture was to capture the attention of the MTRC [Mass Transit Railway Corp.], which was conducting consultation on the new stations to be built as extension of the Island Line. According to MTRC's preliminary plans, the stone-wall trees would be a casualty of the project"* (Conservancy Association 2008: 188).

This incident succeeded in raising the issue with government and helped achieve recognition for greater protection of Hong Kong's 'wall trees,' alongside other heritage tree campaign messages. Such campaigning has continued on the CA's website, e-newsletters and its affiliated and specialized: 'Tree Lovers Blog.'[219] A CA staffer noted that while their use of online petitions

Figure 5.4: **Face-to-face on Facebook: A screenshot of CA's social media page (launched in 2008** Source: https://facebook.com/pages/%E9%95%B7%E6&98%A5%E7%A4%BE/120372376163. Las accessed 6 April 2012.

[219] For example amongst many of its tree campaigns in Hong Kong, the CA focused on saving the Lung Chu Street wall trees (Sham Shui Po) by targeting concerns about the plans of the HKSAR Drainage Service Department in March 2006 (press release, http://www.conservancy.org.hk/preleases/mainE.htm. Last accessed 19 March, 2012).

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remained limited, it was notable that they were once experimented with—apparently with little success in terms of numbers of signatures—in a 2005 digital campaign that focused on protecting a heritage building (Stubbs Road, Wan Chai, Hong Kong Island) (Interview 07/14/2011). In addition the same staffer suggested that some caution was needed with digital campaigning and social media activism, since it could be difficult to discern genuine 'grassroots' campaigns from 'astroturf' actions organized by public relations organizations or other forms of external manipulation (Ibid.).

Online video remediation is another practice that the CA has recently experimented with beginning in 2010 with the launch of an Association account on a commercially-based cloud server.[220] While these online video efforts represent limited experiments to date, a number short video clips featuring the CA's activities and a number of LOHOS-style environmental tips have been produced and uploaded. Several of these videos clips have also been cross-referenced and hyperlinked in the English version of the CA's online newsletter (CAre News, November 2010).[221] Castells (2008) suggests that ICT-linked online media such as video sharing sites represent a new type of public sphere. The use of online digital video perhaps is illustrative of some of the ICT-linked dilemmas for the CA. This includes a desire to produce professional-looking videos in the face of time, financial or skills limitations. Here the CA staffer responsible for ICTs identified their particular issue with this multimodal format:

> *"[S]ome directors suggested in the past: blogs, text-based multimedia [and] videos. Well they asked us to try maybe YouTube you know this sort of thing. [B]ut that presents a lot of problems. Not just ICTs. We have to have someone who is good at images video, right. If you have something just amateurish on the web you don't do anything"* (Interview 07/14/2011).

The other difficulty, the same staffer claimed, related to the scale of environmental problems and the challenges of trying to portray these meaningfully in digital video clips. He suggested, "The main problem is our issues do not lend themselves to the use of videos." Here Gurstein's (2003) question, 'has this use of ICTs been effective?' is worth asking in relations to whether the time and energy spent by civic groups in employing a technological path is worthwhile and effective. In some ways the CA's approach to experimenting with new media, and other participatory e-tools, suggests that it has decided to 'take the plunge' and test whether various ICT tools and platforms actually suit (or can be adapted to suit) their longer-term needs in advancing their mission. A similar approach appears to be being employed in relation to the uses of social media, as the next section discusses.

[220] In addition, the possibility of video blogs has also been also been internally discussed, a CA staffer noted (Interview 07/14/2011).

[221] For instance one series of posted video clips features an interview with the Chair of the CA—describing his personal volunteer interests and his activities with CA (CAre News, November 2010. Available at: http://www.cahk.org.hk/CAnews/130/nov2010e_menu.htm. Last accessed 19 March 2012).

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5.3.2.2 Social mediation and participation: *From face-to-face to Facebook and back*

In recent years, the CA has intensified its social media presence with the launch of an organization-wide social media page (using Facebook) in June 2009 (Figure 5.4).[222] In addition, several CA-organized projects have also made such social media connections, including the previously mentioned 'tree lovers program' (www.treelovers.org.hk); and the 'low carbon life' (www.lowco2.hk) project, each of which includes social media links on their websites.[223]

The CA's 'Tree Lovers' program, with its own dedicated website, has also features the use of environmental blogging which at times has taken on the characteristics of cyberactivism, but distinct from Pickerill's (2003) approach in that these uses are more like citizen science. Such an approach, according to one staffer, has involved volunteers (typically, student volunteers) who track the fate of Hong Kong heritage trees. He noted:

> *"For example, we have a website that we specially designed for recording the old and valuable trees database in Hong Kong. So this is also very important for us to you know ask them to be a volunteer to record some [of] the old and valuable trees in different districts in Hong Kong. We got the database, how it grows, are they hurt or what is the new progress of the construction site nearby affecting trees"* (Interview 12/23/2009).

Using ICTs to blog, capture images of and track the fate of Hong Kong heritage trees (including contributing to an online database) also illustrates how the CA's 'Tree Lovers' initiative has connected its uses of ICT tools to environmental education, environmental monitoring and member-driven on and offline activism (Interview 12/23/2009) (Figure 5.5). Another project-linked example that employs a dedicated website has been the CA's education-oriented, 'Live a Low Carbon Life Project,' which had a physical base in a Hong Kong school (Kam Tsin Village Ho Tung School) and a virtual base in the form of a dedicated website (Figure 5.6). Besides referencing an actual physical low carbon home 'an exhibition and education center;' the project website site includes an interactive educational game; a social media link; and a photo album, amongst other features assisting the project's goal providing students with training and workshops and on low-carbon living.[224]

[222] The CA's Facebook site is at: https://facebook.com/pages/%E9%95%B7%E6&98%A5%E7%A4%BE/120372376163. Last accessed 6 April 2012

[223] The CA 2010-11 Annual Report respectively identifies these social media sites as: http://www.facebook.com/treescape2 , and, the low carbon life Facebook link can be found on the www.lowco2.hk, or via a Facebook search: "live a low-carbon life!" (Conservancy Association 2011: 13, 29).

[224] According to this CA project website the purpose of the 'low-carbon home' opened in March 2011 at the Kam Tsin Village Ho Tung School is: "to serve as an education center and demonstration site. Demonstrations and displays of renewable energy/energy saving settings, green cooking, recycling and composting, vertical farming/greening/green roofing at home will be shown in the Center" (http://www.lowco2.hk/aboutus.php. Last accessed 9 April 2012).

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Figure 5.5: **A screenshot of CA's Tree Lover's weblog (blog).** Source: hktreelovers.blogspot.com. Last accessed 9 April 2012.

5.3.2.3 The 'green public sphere' and cyberactivism

Regarding the CA's broader forays into social media, one staffer suggested that in a Hong Kong context that ICTs remained a key means for connecting with the next generation of up and coming environmentalists—including the group sometimes referred to as the 'post-80s generation' of activists as well as the current generation of school-aged youth.[225] For example, a CA staffer argued that:

[225] Referred to as such because they born after the 1980s and came of age in the 'Network Society,' or ICT-era.

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> *"[The] Internet is a particularly effective tool when we work with youngsters. Well, I would say particularly effective because for youngsters here in Hong Kong they can't live without computers so every time, every minute they spend on the computers you can communicate with them like MSN, like Facebook, well this is a very effective way when we recruit volunteers like youngsters. So we use that as well"* (Interview 12/23/2009).

However, despite the discursive function of social media commentary, the CA staffer responsible for ICTs remained skeptical about its potentially larger role in inducing participation or network-formations. For instance, he felt online commentary could not be equated to democratic participation. And he also suggested that the use ICTs for such participatory tools was being dramatized or exaggerated: "But for e-democracy that's just hype"(Interview 07/14/2011). The same skeptical CA staffer (about ICT's participatory effects), however, also did identify Hong Kong's Tai Long Sai Wan incident in 2010 (identified in Chapter Four), noting the importance of a rapid public mobilization for environmental issues. And he suggested that this potential remained a reason for civic groups to remain plugged into social media, adding:

> *"To answer your question about whether we can form networks by these ICTs. Well, yes and no, ICTs are personal, if there's no Facebook group we would not easily get 10,000 people just in a short period of time…and from that 10,000 people you get a core group that can form quickly. But you still rely on face-to-face communication […] to get things done. I mentioned 'armchair activists', actually you know Dixon Chu, from In-Media, Chu-Hoi Dick. That's what he wrote about his articles [on] Tai Long Tsai Wan; about these 'armchair activists' there are lots in Hong Kong. You still have to go. Send a letter to director of EPB"* [Environmental Protection Bureau] (Interview 07/14/2011).

The same CA staffer discussed the influence of ICTs amongst newer Hong Kong activist groups and compared them to existing civic environmental associations:

> *"They are a new breed of activists, but more a radical agenda using the new technologies. But basically I think their organization structures are not that different from traditional green groups"* (Interview 07/14/2011).

While the CA may be less involved in cyberactivist practices, as the discussion has revealed thus far, it is highly active in the digital public sphere. For example, recently Conservancy Association has established a Chinese Language e-newsletter ('Green Messengers') which serves both as an organizational tool (informing members of conservation and administrative issues); and a participatory tool (spurning discussion and actions). Initiated in 2010, "when CA had a budget to hire a membership and publications officers," the Green Messenger service includes regular monthly e-newsletters along with ad hoc notices and meeting announcements. Green Messengers had 3000 entries on its distribution list as of mid-2011. As to whether the CA's

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Figure 5.6: **A screenshot of CA's 'Live a Low Carbon Life' project website.**
Source: http://www.lowco2.hk/. Last accessed 9 April 2012.

recent social media experimentation and its Green Messengers e-mail newsletter services were seen as being effective, the staffer observed:

> *"Well, like I said before we haven't realized the full potential of these kinds of technologies. One advantage is that you get interaction with your target audience with this technology. And email list is actually a like a cheap way to do old things in a new way"* (Interview 07/14/2011).

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Such media tools with environmental messages match Yang and Calhoun's (2007) notion of the 'green public sphere' as sites of green discourse. With reference to the Green Messenger e-newsletter and e-blasts (mass email distribution), the same staffer also suggested that, "We studied our publication costs and actually we do not have improvement with our interaction with our target audience" (Ibid.). And in discussing future participatory practices this staffer also suggested:

> *"It really depends upon the general advance of the technology and also the pricing and the availability. Of course one reason we chose Facebook [for social media] is because it's more widespread. […] It depends on the initial stage. The availability, especially the ease of use, the price that means the cost, and also whether it's widespread or not, you know, if a lot of people use it, the usage"* (Interview 07/14/2011).

Besides building on its actor-networks and potentially tapping into new members or seeding novel activist passions, how are the CA's uses of ICTs altering the civic public sphere and cyberactivism (if at all)? This is the focus of the next section.

As discussed above, some of the CA's (green) public sphere and new media efforts have included: online videos experiments; conservation flash mobbing; subsidiary dedicated websites with interactive gaming and social media features; tree spotter blogging; and mass 'Green Messenger' e-news blasts. While some of these initiatives may be considered pragmatic, quasi-administrative or educational forms information exchange; others can be interpreted as potential forms of cyberactivism (or 'armchair activism'). The challenge remains how to tap into the small group in 'the public' who may actually be interested in environmentalism—amongst many other issues—or the so-called 'long tail' and a multitude of specific civic interests, in this case of civic environmentalist interests. When asked if ICTs might help a non-profit like CA connect with this group a staffer suggested:

> *"I hate to say actually it's a fact in Hong Kong it's a small group. A limited number of people really do care for the environment. But with the help of ICTs we can get them together and train them as our core volunteers. The same for […] what we call, 'radical groups.' You can get that long tail together with the use of ICTs. I think that's the main power. You know in the public sphere, in public affairs it's not the number that counts. It's about how loud, how prominent that that message can get across to the government, the media the so-called public opinion. That's how public opinion is made. The silent mass don't count"* (Interview 07/14/2011).

And when asked about whether some civic activism may be becoming increasingly ICT-driven as Hong Kong's creative new media and video activist groups (i.e. V-Activist, Artivists) have explored in heritage campaigns in recent years, the CA staffer replied: "Yes, but they [are also] physically present. In the process shouting their slogans. They are not passive, they are not

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mere bystanders" (Ibid.). The same staffer emphasized the ongoing importance of grounded and face-to-face activism (even if linked to cyberactivism) and remained skeptical about 'pure' forms of cyberactivism. "From my personal observation I have still haven't seen pure cyberactivist groups. You can count In-Media but actually they are really active in real time process" (Ibid.).

Despite the hesitations about ICTs uses for participation and activist mobilization purposes—as noted above—the CA has suggested in a 2011 survey for this investigation that these tools remained at same relative level of importance as other practices (both 'public participation' and 'civic activism and mobilization' were evaluated by the CA as of 'moderate importance' along with 'external activities' and 'alliance building') with the exception of internal activities which were considered of less importance than these (Table 5.10). More on the CA's involvement in multimodal and multiplexed alliances for civic education and activism is discussed in the next section.

Table 5.10: **Degree of importance attached to the overall uses of ICTs in CA's organizational-participatory-spatial practices**.

ICT-linked area of use	high	moderate	low	none	n / a
strengthening internal activities	___	___	■	___	___
strengthening external activities	___	■	___	___	___
creating new spaces for public participation	___	■	___	___	___
providing tools for civic activism & mobilization	___	■	___	___	___
enabling greater geographic reach	___	___	___	___	■
increasing potential alliances	___	■	___	___	___

Source: Question #17, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia' (Hong Kong, Singapore, Taipei). The question was phrased as follows: "In your opinion how important are the overall uses of ICTs to your association in the following areas: [areas noted above in far left column]High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable"(Sadoway 2011).

5.3.3 The CA's spatial practices

ICT-linked spatial practices—as the DHK case also noted—can be related to many of the examples identified above since these are inherently 'grounded' in Hong Kong-related environmental and land use questions. For example, while the CA's use of online video clips can be considered as a 'new media' experiment that not only potentially reconfigures public sphere discourse in virtual space—it also clearly demonstrates spatial potential. For instance, online video has the potential to spotlight, chronicle (or archive) evidence of site-specific, physical and environmental damage or injustices—including habitat, wetland, or watershed destruction and point-source pollution infractions. In turn, such information may be remediated amongst allied organizations or interested publics, including beyond the localized sites in questions—

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illustrative of Sassen's (2005) ICT-induced spatial transformations amongst civic groups. Thus, a participatory practice also can have spatial implications. A key issue with video, however, remains the need to convey the importance of large-scale environmental issues—including the cumulative impacts of land use changes and infrastructure developments—which typically evade socio-political boundaries (or bubbled, provincial thinking), as a CA staffer suggested above in relation to the limitations of ICT-mediated video (Interview 07/14/2011).

The section discusses four types of ICT-linked spatial practices evident in the CA's work. The first example is a CA-organized and internationally-linked tree planting initiative which includes digital features that have 'spatialized' the initiative. The second reviews a CA-organized environmental education and stewardship effort which included the use of an online participatory GIS map; along with the CA's 'Hong Kong Rural Devastation Map.' The final spatial practice discussed here explores blended digital and physical (multiplexed) activities and their role in alliances.

5.3.3.1 Digitizing trees: local rootedness and global connectedness

As was noted earlier, the CA prides itself on environmental education initiatives. The CA's Eco-protector campaign established in 2010-2011, encouraged Hong Kong public school students—ranging from primary schools to junior colleges—to plant trees and to subsequently blog about it. In the autumn of 2010, for example, schools involved in tree planting events were taught:

> *"[T]he basic skills of how to plant tree seedlings and to take care of them by having daily watering and monthly monitoring such as taking measurements of their heights, diameters as well as jotting down notes on any biodiversity spotted"* (eco-protectors-ca.blogspot.com/2010_12_01_archive.html. Last accessed 10 April 2012).

Simultaneously to the planting activities, students were encouraged construct their own 'eco-blogs' for tracking monthly tree growth data (including problems encountered); and uploading related images about biodiversity (Ibid.). Employing the slogan: "let's help save our living species in the world starting from our homeland!" (eco-protectors-ca.blogspot.com. Last accessed 21 March 2012), the Eco-Protectors campaign focused on Hong Kong, but was also connected to an international actor-network of youth tree planters worldwide. In particular, the CA Eco-Protectors project linked-up with the United Nations 2010 'International Year of Biodiversity' and Convention on Biodiversity (CBD) multiyear global 'Green Wave,' campaign—where tree planting actions around the world were tagged and described on an online digital map. The CBD's dedicated website campaign describes the international efforts as follows:

> *"The Green Wave is a multi-year global campaign that enables children and youth to make a difference—one school, one tree, one step at a time. The Green Wave brings together children and youth from around the world to raise awareness about biodiversity, and the need to reduce its loss. The Green Wave contributes to*

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the Plant for the Planet Billion Tree Campaign"
(http://greenwave.cbd.int/en/home. Last accessed 21 March 2012).

According to the CA's report on its EcoProtectors initiative—tagged for Hong Kong on the CBD's digital map of the planet—submitted for the 2011 Green Wave campaign:

> *"Native trees [12 types of species] were planted by the students in 12 schools in Hong Kong to increase their awareness on nature tree conservation as well as the importance of biodiversity"* (http://greenwave.cbd.int/node/8622. Last accessed 10 April 2012).

The Eco-Protector initiative demonstrates the spatial transformative use of ICTs in that it literally combines grounded environmental education (the tree planting experiential education; and eco-blog monitoring) with digital remediation (tracking, blogging and sharing tree planting data amongst Hong Kong schools) as well as with a global connection (building international linkages to CBD's Green Wave campaign). The CA's Eco-Protector initiative therefore demonstrates a multiscalar internationally-linked tree planting initiative with local focus on physically planting trees and digitally (re)mediating their fate to wider audiences. Although less overtly a political than Sassen's (2005) theory suggests, the example here illustrates the global reach afforded by civic associations—what she terms "the local as multiscalar" (2005: 73) and elsewhere: "micro-environments with global span" (2004: 655).

5.3.3.2 Mapping civic environmental stewardship in Hong Kong

'Mission Green,' another CA-organized environmental stewardship effort—again educationally-oriented, with an exclusive HKSAR-wide focus—has linked local environmental monitoring with digital remediation whilst employing a geographic information system (GIS) map 'mash-up' of Hong Kong (similar to the CA's Rural Devastation Map, but not interfaced).

The project objectives for Mission Green states that it aims for: "arousing public awareness on nature destruction including illegal fly-tipping [waste dumping], development, etc."[226] This 2010 initiative, funded by the HKSAR Government (Environment and Conservation Fund) trained a group of 'Mission Green monitoring teams' (consisting of roughly 50 persons) whose key purpose was to monitor 'high risk sites' around Hong Kong that were legally unprotected or potentially threatened by development. For example, the Mission Green website, in identifying the monitoring work, states:

> *"The states of landscape, ecological value and destroy condition were recorded. Reports were submitted and are available on the official website. All the data would be used to support future conservation work"* (www.missiongreen.hk/aboutus.php?page=activities. Last accessed 10 April 2012).

[226] From The CA's MissionGreen dedicated website, 'about us/project activities': www.missiongreen.hk/aboutus.php?page=activities. Last accessed 10 April 2012.

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Figure 5.7: **A screenshot of CA's online 'Hong Kong Rural Devastation Map' (originally launched in 2008)** Source: http://www.cahk.org.hk/conser/mapphotos/index.htm. Last accessed 6 April 2012.

Besides online reporting, the CA developed on-the-ground workshops and site visits for providing background training on conservation, legal issues related to land use and techniques for environmental monitoring.[227] Green monitors and ambassadors were also prompted to

[227] In addition public school talks and an ICT-linked 'green ambassador' system was launched which encouraged concerned students and citizens to: "[R]egister online and login [to] the report system to report any suspected cases. [A] newsletter will be sent to registered ambassador to provide updated information" (www.missiongreen.hk/aboutus.php?page=activities. Last accessed 10 April 2012).

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complete online monitoring reports[228] Mission Green online reports[229] are link to tabular and visual data (digital images) and may be viewed in either 'map mode' (for site specific or regional-level perspectives), or 'list mode' (for a categorical overview).[230] Such online mapping initiatives beg the questions what are the possibilities, but also the limitations of ICTs in advancing geographical knowledge and local pride in place—key ingredients in a civic approach to environmentalism. The next section discussed these matters further.

Another online GIS-map which has been linked to grounded environmental concerns—the 'Hong Kong Rural Devastation Map' (HKRDM)—focuses on locations where natural areas (key habitats, wetlands or ecologically sensitive sites) may have destroyed, damaged or faces imminent threat. According to the CA staffer responsible for initiating this ICT experiment, the concept was to provide an overall visual of all the key sites across Hong Kong in a single online map (Interview 07/14/2011) which is complemented by an ability to toggle or zoom-in to specific sites for additional information or to post comments (Figure 5.7). This links back to the info-sociational model's argument that ICT practices can potentially serve to transform not only associational geographic reach (as Sassen [2004, 2005] posits), but also public consciousness to connected spatial issues—in this example linking the site-specifically to a Hong Kong city-region perspective.

In developing the HKRDM, the staffer noted that the CA was making a rudimentary use of a freely available commercial map service (Google Maps)[231] in order to support their goal of identifying peri-urban land use problems:

> *"We just have a list of those sites that are devastated by those developers and then click on the point there's a pop-up that tells you about that event where it happened, some photos that sort of thing. So actually it's a very elementary use. But we're surprised it's almost the first use of this technology amongst green groups"* (Interview 07/14/2011).

[228] This component of the online report features a detailed assessment worksheet (with online hyperlinks for further explanations) for monitors and ambassadors to complete including: survey location/area; habitat and land use data; biodiversity data; historic-cultural data (including archeological data); socio-economic, demographic and transportation data (sourced from a sampled completed online report, available at: www.missiongreen.hk/report-detail.php?ie=48, accessed 10 April, 2012).

[229] Online reports includes the following types of information: key background information about the sites in question; details and evidence about the destruction cases, including GPS coordinates, links to Google Map, the category of destruction (e.g. pond, damaged trees, chemical herbicides, water pollution, road reclamation, dumping, etcetera); the type of development project (e.g. buildings, dumping, vegetation destruction or illegal columbaria); and identifiable adjacent sensitive areas. In addition, monitors were encouraged to identify repair actions taken since previous surveys—such as whether control or restoration measures had improved the situation, or if further deterioration was evident. (www.missiongreen.hk/. Last accessed 10 April 2012).

[230] See the Mission Green map and linked reports, available at: www.missiongreen.hk/view-map.php. Last accessed 10 April 2012.

[231] The CA staffer responsible for ICTs referred to the choice to develop the Rural Devastation Map in 2008, suggesting, "at that time there's a free service. If this happened a few years earlier then maybe we would not have the means to realize this project. But Google has a free service and we also have the issue, so we launched this so-called experiment" (Interview 07/14/2011). He suggested that their ability to develop a more complex map was limited noting that: "Google has their own APIs [which are] very difficult to master if you are not familiar with Java language." The staffer also suggested that it remained, "difficult to maximize the advantage of the technology. It still need[s] some trained personnel" (Interview 07/14/2011).

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The same staffer also distinguished the CA's online GIS mapping approach from the Designing Hong Kong's online digital map experiment (which was later dropped by DHK), suggesting that the CA's HKRDM thematic approach was focused on land use problems rather than linking to their various projects around Hong Kong.[232] When asked about the underlying rationale for the HKRDM and the choice of mapping applications, the CA staffer suggested:

> *"Well it's not the technology that dictates what we do. It's actually what we do that dictates what technology we'd rather use. We did not choose the technology. It's the issues that choose the technology. The issues back in that time [2008] you know there are lots of illegal developments in rural areas [notes example of land filling] and we have gathered a list of those sites over the years. So we think we should show the public how serious the problem is. Of course the best solution is to have a map. To have all those points and then the gather the information in one place"* (Interview 07/14/2011).

And when asked whether the HKRDM may have had some influence in government circles or amongst the broader public, the staffer suggested: "Well it's hard to say. Because I don't think you simply look at the map and say wow, I'm going to change something. It's a combination of things, media reports you know" (Interview 07/14/2011). This also identifies the difficulty of measuring the dispersed and seemingly ephemeral (or fleeting) impacts on public opinion or environmental knowledge of such civic-cyber experiments. Although online analytical tools have become increasingly sophisticated—they essentially provide a limited bundle of data on anonymous users, not the complexities shaping their motives or experiences, nor the fluid actor-networks with which they may be affiliated.

Despite its limited technological means, the CA was able to launch the Hong Kong Rural Devastation Map experiment in 2008 with an aim of visually connecting reports about site-specific environmental destruction and damage on a regional scale, particularly in Hong Kong's New Territories. This approach clearly has parallels to the CA's Mission Green initiative noted above, and to Sassen's (2004, 2005) g/local theorizing—part of an info-sociational approach. Interestingly, in this overall investigation online mapping tools and experiments have also been initiated by other civic environmental associations—such as DHK, WWF-HK and OURs, for example. This may demonstrate an interest in alternative ways of mediating civic environmental information: namely, employing increasingly accessible and affordable spatial cognition tools and techniques for supporting networked public interest activism.

5.3.3.3 Multiplexed alliances: linking 'face' networks to individual affiliations

The final digitally-linked spatial practice relates to the importance of ICT-linked alliance formations, including how CA has continued to emphasize the importance of *longstanding face-*

[232] Notably the CA is also listed as one of the 'supporting' civic environmental associations in the SCMP Citizen's Map effort (see Citizen's Map website, http://citizenmap.scmp.com/main. Last accessed 7 April 2012).

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to-face or physical alliances as well as emergent, seemingly peripheral, actor-networks with which its staff or members may be involved in. The discussion involves examining the interplay between longstanding face-to-face networks and emergent digital spatial alliances.

The CA's longstanding 'face networks' illustrate a civic associations that apparently has thrived during the pre-Internet era. As has already been discussed above, the CA emphasizes face-to-face relations amongst its board, committees, volunteers and staffers, although it has not been averse to employing ICTs to augment or complement social relations. A glimpse of these CA networks and alliances from a decade long sample (1997 to 2007)—drawn from extracts in its 40th anniversary chronology—illustrates the importance that CA has placed on coalition building, affinity groupings and resource sharing networks amongst Hong Kong civic environmentalists (see Table 5.11). For example, the CA had supported the formation of civic 'concern' or 'friends' and project-focused groups and alliances (e.g. Friends of Tai Long Wan; Eastern Green Action) as well as its own spin-off or one-off initiatives (e.g. Conservancy Association Centre for Heritage [CACHE]; environmental education centres) during this time period. Arguably such extensive issue networks and alliances represent a 'community of practice' with shared interests and 'solidarities' (Sassen 2004: 655).

In addition, the CA links-up with other civic environmental groups—largely locally in Hong Kong, but also in Mainland China and Taiwan—via both formal and informal channels. Given the small size and tight networks in Hong Kong, face-to-face encounters were cited as being common amongst civic environmentalists (Interview 07/14/2011). The probability of interactions remains high, given that people with common environmental issues networks are typically attending Legislative Council hearings or committee meetings and technical meetings (e.g. EPD meetings, Town Planning Board, etcetera) or conferences related to the environment and conservation. An example of such face-to-face networking was noted in relation to bimonthly meetings organized by the Environmental Protection Bureau (EPB) nominally as a channel for consultations, which the CA has attended as a channel for consultations (Interview 07/14/2011).[233]

The CA has also been involved in non-local issues and alliance-building, including its China Committee-sponsored projects (such as tree planting/watershed restoration, community sanitation/biogas energy generation); as well as regional civic environmental networking (e.g. its 2008 Anniversary conference included presentations and delegates from both Mainland Chinese and Taiwanese civic associations). A CA staffer noted that, [1:15:00] "It is written in our mission statement that we will have international cooperation" (Interview 07/14/2011), however, he suggested that their focus largely has been geared to local issues first and foremost, given the limited resources to do regional or international projects.[234]

[233] It was suggested these meetings have apparently served more for information provision rather than actual consultations or interactive sessions (Interview 07/14/2011).

[234] Besides sending an early CA member to the 1972 Stockholm Earth Conference, the CA has demonstrated leadership in organizing Hong Kong delegations to key global summits on the environment, including organizing an 8-person delegation to the 1992 Rio de Janeiro Earth Summit; and a 37-person delegation for the 2002 Johannesburg World Summit on Sustainable Development (Interviews 12/23/2009; 07/14/2011; Conservancy Association 2008: 13; 66-67; 147-149).

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Table 5.11: **Examples of CA involvement in civic issues networks and alliances (1997-2007)**

Alliance issue	Purpose	Alliance Group Members (besides CA)
Framework Convention on Climate Change (FCCC) and Kyoto Protocol (1995-1998)	Joined in formation of 'Atmospheric Action Network of East Asia' (1995) and discussing positions in relation to FCCC Conferences of the Parties	An alliance of East Asian environmental NGOs with an interest in reducing Greenhouse Gas Emissions
Tai Long Wan (1997-2001)	Sought coastal protection from overdevelopment, including proposed changes to Outline Zoning Plan	Working with Hong Kong Hiking Association formed an alliance 'Friends of Tai Long Wan'
Victoria Harbour, Central District Reclamation (Phase 3) / Wanchai Outline Zoning Plan (1996-2004)	Jointly organized series of participatory events, exhibitions, charrettes, citizen hearings.	Eight civil society groups, 4 universities, 4 professional institutions under the umbrella group Citizens Envisioning At Harbour CE@HK.
Woodside (Quarry Bay) heritage house and woodland (1998-1999)	Organized citizen's forums, petition campaign, protest 'run for Woodside, house/forest protection, and formation of civic environmental group 'Eastern Green Action'	Working with Eastern District residents, Environmental Campaign Committee, Eastern District Council and newly formed Eastern Green Action
Conservation-led vs. development-led planning on Lantau Island (1998-99)	Supporting Green Lantau Association's (Conservation Strategy for Lantau).	Joint work with 5 green groups to publish the plan and submit to HKSAR Chief Executive. Jointly supported a Green Lantau's forum on conservation and development.
Long Valley Campaign for habitat protection and campaign against Lok Ma Chau KCRC railway spur line (2000-01)	A number of joint activities throughout this campaign including: joint press conferences; coalition letters to Chief Executive and HKSAR government; joint university group and dedicated website; LegCo member alliances	18 LegCo members joined in stating objections to spur line; 10 green groups involved in joint letter campaigns; in counterplanning (HK Bird Watching Society (HKBWS), WWF-HK); joint letters: Messengers of Green Consciousness, Green China Foundation, Green Power, HKBWS and others.
Rural community engagement (with indigenous village body, Heung Yee Kuk) (2000)	Developed a joint statement supporting the establishment of a Hong Kong Nature Conservation Trust	Heung Yee Kuk, Clear the Air, Earthcare, Green Power, Green Lantau, Hong Kong Birdwatching Society, Hong Kong Sustainable Development Forum, LANTAUPOST, Tai O Environment & Development, Tai Po Environmental Association, WWF-HK
Lamma Island power plant extension (1998-2006)	Formation of 'Powerful Coalition' to express concern about Lamma power plant extension and to address energy policy issues in Hong Kong	Act Now!, Citizens Party, Democratic Party, Earthcare, Friends of the Earth, Green Lamma, Green Lantau Association, Greenpeace, Green Power, Lamma Island Conservation Society
Wetland conservation area protection (2000)	Issued a joint statement objecting to the trend towards development in designated conservation areas	ABLE Ltd. (Charity), Friends of the Earth, Green Lantau Association, Green Peng Chau Association, HK Bird Watching Society, Produce Green Foundation
Rural land use planning—'Other Specified Uses annotated Rural Use' or 'OU(RU)' issue (2002-04)	Coordinated a campaign with a position paper to oppose OU(RU) zoning	Catholic Messengers of Green Consciousness, Friends of the Earth, Green Lantau Association, Green Power, Hong Kong Bird Watching Society, Hong Kong Organic Farmers Association, Kadoorie Farm, Produce Green Foundation, Wildlife Conservation Foundation, WWF-HK
SARS crisis & the 'Let Wildlife Be	Signatory to a joint statement urging	Joint statement by 46 Hong Kong and

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Wild Campaign' (2003)	China to revise its Wildlife Conservation Legislation and to enter 'Cartagena Protocol on Biosafety'	Mainland green groups.
Johannesburg World Summit on Sustainable Development (2002)	Coordinated assembly of 37 multi-sectoral civil society delegation & HK 'Civil Society Declaration on Sustainable Development'	Delegates from a range of organizations including: HK Council for Social Services, Oxfam, Friends of the Earth, St. James Settlement, Hong Kong Christian Services amongst others.
Governance and institutional reforms in the HKSAR government (2007)	Issued joint statement of concern about Environment Bureau reforms, particularly need for professional scientific leadership	Clear the Air, Green Lantau Association, Green Sense, Green Student Council, Living Islands Movement, WWF-HK
Electoral platform pledges / surveys for local council & LegCo members on environmental issues (1995, 2004, 2008)	Surveyed electoral candidates on their commitment to 'Green Pledge' & 'Environmental Compact' on a range of sustainability issues	Friends of the Earth, Green Power, WWF-HK, Green Lantau Association (1995, 2004); Friends of the Earth, Greenpeace, Green Power, Greeners Action (2008)
Central Police Station Compound heritage protection campaign (2004-05)	Formed 'Central Police Station Heritage Taskforce' & 'Roundtable'; devised 'Citizen Envisioned Participatory Assessment Model'	HK Institute of Architects, CUHK (Arch.), HK People's Council for Sustainable Development and other civic groups
Wanchai Market heritage protection campaign (2004)	Member of voluntary professional 'Wan Chai Heritage Taskforce'	HK Institute of Architects, American Institute of Architects (HK), LIVE Architecture Programme, HKU, CUHK, Urban Watch
Central Star Ferry Pier heritage preservation campaign (2006)	Coordinated rally and submission to Chief Executive & joint public statement	SEE Network & HK Institute of Architects and other civic groups
Queen's Ferry Pier heritage preservation campaign (2007-08)	Signatory to 'civil society declaration on Queen's Pier'	An alliance of 15 civil society groups
Harbour Area Treatment Scheme (HATS) (2007)	Issued a joint statement of concern	WWF, Green Student Council, Green Sense
Lantau Concept Plan (2005-07)	Issued a joint position paper	Green Lantau Association, Living Island Movement, Clear the Air

Source: Compiled by Author (2012) from the Conservancy Association (2008:88,90,103,110,114,125,129,132,135,142,145,147,152,153,154,164,168,171,174,176,194)

When asked whether ICTs have altered the scale of networking in Hong Kong or internationally a CA staffer suggested: "For us no. We have regular meetings with other green groups. Of course we use email, but it's not ICTs that make us connect" (Interview 07/14/2011). The discussions with CA staffers also demonstrated a keen awareness in the work of other groups and movement issues—such as Hong Kong's lively new media activism (discussed in Chapter Four). Here the issue of how established associations (like the CA) directly or peripherally relate to local and nascent activisms, movements or counterpublics—both grounded and digital—remains of interest. The relatively long history of the CA has in some ways paralleled the ongoing shifts (both locally in Hong Kong, and globally) and paradoxes facing environmentalism (Mulvihill 2009)—arguably a shift from 'anti-establishmentarian movements' to more established, 'quasi-establishment networks.' It is suggested here that civic environmental associations are not monolithic isolated actor-networks, but rather consist of individual members, staffers and directors who bring with them their own personal network constellations—including entirely distinct weak and strong ties or affiliations to other environmental groups, political, scientific, government, business or other groups. With the CA

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such interests and ideals appear, at least at the time of the interviews, to cover a broad socio-political spectrum of interests within its directorship from: “some very conservative [and] some bordering on radical” (Interview 07/14/2011).

Similarly, CA’s staffers and members bring with them their own personal ideas and ideals and network affiliations. For example, one of the staffers identified personal connections with Hong Kong Wildlife.net which has employed an active digital members’ forum and was suggested being a channel for those dissatisfied to some extent with ‘traditional green groups’ (Ibid.). This Hong Kong-based forum apparently has provided a digital outlet and discursive space for members to vent frustrations and concerns, but also like communities of practice, shared ideals and ideas. As was suggested, such a forum or activist network formation does not operate in isolation, as its members bring their knowledge and skills from other civic associations and interests. Such dynamic, seemingly peripheral affiliations none-the-less arguably constitute ‘issue networks’ (Marres 2006) and ‘communities of practice’(Sassen 2004) which shapes the CA’s outlook because they influence individual staffers and members. For example, the staffer noted that the CA’s Rural Devastation Map had been cross-posted in the HK Wildlife.net forum. New media culture scholars Lam and Ip (2011: 44) have suggested that Hong Kong Wildlife.net demonstrates the intertwining of online discussions with offline activities, what this investigation has referred to as ‘multimodal, multiplexing’. With regards to HK Wildlife.net their work noted the Lung Mei incident:

> *“For instance, key pals on the HK Wildlife (“http://www.hkwildlife.net”) forum keep organizing field trips for members to observe local natural habitats. Since 2007, netizens opposed to the Hong Kong government’s proposal to build a manmade beach in the mudflat of Taipo’s Lung Mei beach had initiated their own series of actions. To conserve Lung Mei mudflat, they conducted their own environmental assessments to register seas side species found there, called for an online signature campaign, hosted talks, and submitted their objections to the town planning board. Although the “Save Lung Mei” campaign failed, the process have set an example of the self-initiative and deep involvement of the general public in natural life conservation”* (Lam and Ip 2011: 44).

Dynamic civic environmental actions and activism across a spectrum of ideas and ideals (from pragmatic to activist) therefore inevitably shapes the CA as a people-to-people physical and digital civic actor-network formation—as the example of one staffer’s outside passion for nature issues illustrated above. Certainly some observers have questioned the extent to which some Hong Kong-based environmental groups like the CA might be able to shift beyond representing a middle class, professional ‘comfort level’ shaped by western techno-scientific paradigms (for example see: Lai 2000). Such critiques posit the importance of the need for

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greater local linkages to Hong Kong social and environmental justice issues; and of integrating local (and 'traditional') knowledge systems and customs into their work.[235]

As this final section has suggested, the CA's evolving alliances and networking practices do demonstrate that it has readily been prepared to work beyond its own internal priorities (and sometimes boundaries) acting as resource or base for broader civic alliances and networks of common cause in the name of natural and heritage conservation in Hong Kong. Such practices are worth keeping in mind as the investigation shifts settings in the next Chapter to Singapore, where the cases of NSS and GDS are examined in further detail.

5.4 Hong Kong: case pair summaries for DHK and CA

This section briefly reviews the cases of DHK and the CA in relation to the info-sociational model's three key ICT-linked practices: organizational, participatory and spatial. To recapitulate, the first case of DHK highlighted the importance of what might be termed co-evolving 'catalytic' networked relations—also dubbed the 'spider web' by its CEO—which was manifest in its practices in three respects. First, in relation to organizational practices DHK's 'issue networks' (Marres 2006) and 'actor-networks' (Bach & Stark 2005) were shaped by 'toggling' between online formats (email lists, websites, etcetera) and face-to-face forums around Hong Kong. They were also shaped by an active CEO who as a keystone actor (an 'obligatory passage point' in actor-network theory) helped to build DHK into a type of 'knowledge community' (Bach & Stark 2005: 43) including with the use of ICTs in the sense that it has played an active role in shaping policy making primarily working in complement amongst a network of like-minded civic associations—but also leading a number of distinct and arguably successful campaigns to change public policy and political maneuvering (e.g. Save Repulse Bay; Central Waterfront input into urban design). DHK's actor-networking typically involved local alliance-building or linking with like-minded organizations that supported or publicized their events. DHK's ideals and ideas were also being put into practice using ICTs—from the earliest stages of its associational genesis; to its present phase of politicized civic leadership, particularly in design and urban sustainability issues. DHK was notably a relatively 'early adopter' of ICTs practices during its nine year organizational history including its early use of e-newsletters and e-mail lists that helped the organization to build a constellation of connections amongst interested citizens. These ICT tools and platforms arguably have helped to reinforce its issue networks, rather than substitute for them at the cost of face-to-face in person relations and relationships.

Second, in relation to ICT-linked participatory practices, DHK's actor-networking was enhanced through online mediation and a publicly accessible e-newsletter; as well as digital video

[235] For example, Lai (2000:277) has suggested that the CA—amongst other Hong Kong civic environmental groups (he noted Friends of the Earth and WWF)—have arguably not been actively been involved in environmental justice or building links with social justice movements or issues. He relates this partly, to "their non-involvement in most local social issues and struggles for social justice. The environmental NGOs' apathy towards local and social protests," Lai suggests, "is a result of their middle-class leadership, which has opted for a consensual approach to environmental movements. In addition, there is also a strong element of participation by expatriate and middle-class professionals in the environmental movement, which in turn reduces the extent of grass roots radicalism" (Ibid.).

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archives of key events, including cross-references or hyperlinks to websites, resource pages, visuals, and video or textual artifacts. ICTs have certainly been employed by DHK for rapid response actions or activism—including e-alerts or e-appeal digital letters for catalyzing public responses to critical planning, environmental, transportation, infrastructure issues and policy processes potentially (re)shaping Hong Kong's urban and natural systems. This it was argued represented effective albeit 'soft forms' of online or cyberactivism—akin to Pickerill's (2003) concepts of 'electronic lobbying' and 'digital alternative media.' ICTs have also been utilized for 'slower' forms of deliberation such as public sphere discourse and much needed reflection on quality of life concerns in Hong Kong (demonstrable in DHK's digital announcements and remediation of events such as 'CitySpeak'; and in e-news bulletins, opinions, surveys and other face-to-face events). In some ways these deliberative space were seen to be similar to Yang and Calhoun's (2007) 'green' public sphere but more distinctly shaped by the Hong Kong's civic life and its concomitant mass media 'freedoms' (e.g. speech and association) compared to their P.R.C. research setting.

Third, in relation to ICT-linked spatial practices, DHK (like CA) continues to emphasize the power of 'traditional' face-to-face contacts in discussions and debates inside the densely networked 'global city' setting of Hong Kong—what Sassen (2005: 651) calls "thick enabling environments" for networks. This was apparent in how DHK's CEO embraced the 'spider web network'—in a sense a notion of actor-networking as not singularly as an ICT-deterministic practice, but as 'co-evolutionary' (Bach & Stark 2005). That is in terms that acknowledge *both a human and technological* 'spider web' invoking a back and forth mixing and matching of practices adapted to the critical issue(s) of the day (or longer term). Sometimes these ICT-linked experiments were short-lived, such as DHK's online map. DHK's initial strategic focus on civic networking and alliance-building not only relates to its compact organizational format, it also apparently coincided with the high levels of public use and interest in ICTs in Hong Kong. Regarding land use issues, DHK's work—appealing broadly to civic-minded middle class professionals, academics and expatriates through in-person forums, newsletters and spin-off projects—arguably complements the street-level tactics and agendas of more 'radical' local grassroots activist and environmentalist groups on Hong Kong sustainability issues, helping to build a form of 'civic intelligence' (Schuler 2001)—in this case urban environmental collective knowledge.

The second case of the Conservancy Association (CA) illustrated longstanding experience with environmental and conservation activism as a policy watchdog, environmental educator and civic innovator. First, in relation to the CA's organizational practices, as a civic-cyber environmental 'issue' and 'actor-network' the CA's practices have been shaped by a complex set of interrelations amongst both human actors: directors, staffers, volunteers, consultants and project staff, as well as a range of ICT artifacts, both past (e.g. fax, or BBSes, Java based website, a foreign-based server) and present (e.g. a local server host, an updated website, social media applications, email services like 'Green Messengers' and its uses of fieldwork tools such as GPS) including interactive participatory GIS platforms for identifying spatial issues. The CA's internal and external organizational adaptations—as a non-profit association—arguably aligns with Bach and Stark's (2005) 'distributed and recombinatory logic' which distinguishes loose-tight civic groups. Issues also intertwine these activities and shape the socio-political

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priorities that Marres (2006) identifies in civic issue-networks and which were noted in the CA's mission, projects, plans and counterplans and in their ICT-linked media. Besides human and technological actors, natural actors (endangered, threatened or critical species and ecosystems in the 'web of life') highlight some of the connections between the CA's human-technological-natural actor-networks. Such complex assemblages are neither ahistorical nor apolitical as has been demonstrated by the diverse actions, projects and initiatives which the CA has focused on over its forty four year history—including its activities are 'translated' into ICT practices.

Second, in relation to the CA's ICT-linked participatory practices—despite an apparent pragmatism with ICT practices (although not an aversion) driven largely by cost and temporal factors, the CA has experimented with a range of participatory tools including forays into new media (online and e-distributed news; social media; video; project dedicated websites; interactive educational gaming; and tree blogging) as well as multimodal map applications for linking local and regional scalar issues (with visual and tabular data) on spatial platforms. A number of these uses it was suggested have included participatory 'green public sphere' features along the lines suggested in both Yang and Calhoun's (2007) work. The CA's pragmatic forays into ICT practices have also served multiple goals including deepening environmental education and public awareness; building new modes of communicating longstanding environmental and land use problems; and networking with diverse Hong Kong publics and fellow civic groups and activists using new channels of communications.

Third, the CA's ICT-linked spatial practices were suggested as being integral to its organizational and participatory practices because of the 'grounded' importance of spatial issues in its work. Its 'Eco-Protector Campaign' demonstrated the importance of multiscalar reach of ICTs reach—akin to Sassen's (2005) argument—from Hong Kong to a global level. Its Mission Green and the Hong Kong Rural Devastation Map also have demonstrated similar scale-shifting or scale-toggling attributes via ICT practices, but on a regional-local level. The CA's alliance building—primarily face-to-face, but supplemented by ICT uses, also has demonstrated boundary-shifting possibilities both in Hong Kong and in the wider East Asia region with other civic associations. The emphasis here was on identifying the importance of the CA's longstanding shared relationships which transcend modes of communications. From its genesis as a diverse group of actors coming together to contest and to educate on issues of spaces, places and species in Hong Kong, the CA has continued to articulate—both in customary face-to-face modes as well as digitally—the importance of integrating environment, economic and social issues. Such a vision suggests the need for ongoing policy and institutional transformation and evolution in Hong Kong.

How do these two distinct narratives of a 'longstanding' (in the case of the CA) and a 'catalytic' (in the case of DHK) pair of civic actor-network associations relate to each other? The answer to this question involves assessing comparative info-sociational practices in the Hong Kong civic environmental context; and in the context of civic environmentalism in two other Asian tiger cities: Singapore and Taipei. This will be the focus of the integrated analysis found in Chapter Eight. In the meantime the two Singapore cases will be reviewed in light of the info-sociational model's associational centric components in the Chapter that follows.

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<u>Chapter Six.</u> Case studies: green g/localizing & solidifying networks in Singapore

6.1 Introduction: coupled cases of civic-cyber environmentalism in Singapore

Similar to the two cases in the previous Chapter, the coupling of the Singapore civic environmental associations—Green Drinks Singapore (GDS) and the Nature Society of Singapore (NSS)—is intended to provide a comparative window into the sometimes contrasting practices—particularly the information communications technology (ICT)-linked activities—of groups with significantly differing organizational life spans (5 years old, versus 22 years old, respectively) and histories. These associational age differences need to be kept in mind for what they tell us about info-sociations—and viewed in the context of the ensemble of six civic associational cases.

In spite of such differences, however, both GDS and NSS share ideals and ideas about Singapore's urban sustainability, exemplified in both of these groups' involvement in a broad-based civic cyber coalition (in 2010-11) features intensive lobbying for a 'Green Corridor' project across Singapore Island. This example will be described in greater detail in the case narratives below. The GDS and NSS cases will employ an info-sociational analysis for unpacking the ICT-linked organizational, participatory and spatial practices amongst civic environmental actor-networks. In the Chapter that follows, the relatively recent organizational formation of GDS (established in 2007) will be first introduced; followed by the case of NSS—a longstanding Singapore environmental conservation association, first established as a branch of the Malaysian Nature Society in 1954 and later independently incorporated in Singapore in 1992, as the Nature Society of Singapore. The underlying purpose of the two case studies which follows is to understand broader implications of how these two Singapore civic environmental associations are co-evolving with the ICTs that they sometimes employ.

6.2 Green Drinks Singapore's (GDS's) localization of a global green network

"I see Green Drinks in Singapore [as] we're here to rock the boat a little bit, but at the same time not too much"
—The Founder of GDS (interview 11/16/2010).

An initial assessment of the practices of Green Drinks Singapore (GDS) from a 'traditional' environmentalist perspective—such as Castells' (1997: 110-133; 2000) typology, for example—might suggest shallow forms of environmentalism centred on green consumerism and a so-called 'Lifestyles of Health and Sustainability' (LOHAS) approach to socio-environmental change.[236] Deeper forms of analysis would likely suggest, however, that the diverse activities of

[236] Green Drinks Singapore (GDS) hosted an event/talk on January 26, 2012 focused on Lifestyles of health and sustainability (LOHAS). In the advanced online notice for the event it was suggested that LOHAS represent both a 'marketing concept' (in the U.S.) and a 'consumer movement' (in Asia). The introductory text for the talk noted that LOHAS has became "a catch-all for all things sustainable, green, eco, better quality of life." It also suggested that, "70% of all Japanese and Taiwanese know what LOHAS is and awareness is spreading rapidly, mainly

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GDS—as a nascent environmental non-profit 'formation'—has parallels to Mulvahill's (2009) conceptualization of 'emerging' and 'paradoxical' forms of environmentalism.[237] For example, several of GDS's blended physical and virtual practices described below highlight the importance of associational ICT-linked 'knowledge community' formations (Bach & Stark 2005); whilst others appear to reflect emerging 'issues networks' (Marres 2010) in digital civil society.

Furthermore, in Singapore's traditionally contained civic space (as discussed in Chapter Four) a number of the practices of GDS highlight the potentialities for expanding the scope of the public sphere including civic-cyberspace. In order to better understand this ICT potential unpacking GDS's organizational, participatory and spatial practices—as the info-sociational model posits—is in order. The three sections below do this drawing from two separate interviews with the GDS Founder the first in person in Singapore (11/16/2010) and the second a telephone interview (7/11/2011). In addition, to scanning GDS's Internet activity and remaining on its e-invite lists information from the summer 2011 survey helps to supplement the case narrative.

6.2.1 GDS's organizational practices

The internal organizational practices of Green Drinks Singapore (GDS) operates through the mechanisms of regular monthly physical face-to-face 'events' and a blog-style website which serves to announce and remediate these regular gatherings. In some respects the GDS events have structural physical-virtual parallels to DHK's 'CitySpeak' public forums and also their ICT-linked multimodal publicity. An introductory piece found on GDS's blog-style website and Facebook page describes the group:

> *"Founded in November 2007, Green Drinks Singapore is a non-profit environmental group that seeks to connect the community, businesses, activists, academia and government, as well as plug the information gap that exists in the local landscape. We do this by organizing free informal talks every last Thursday of the month to allow opportunities for information sharing and networking, over drinks! Once in a while, we hold discussions, documentary screenings and workshops to further engage the public and participants"* (17 March 2012, 'Green Drinks Singapore' Facebook page).[238]

The group's largely Singapore-oriented environmental consciousness-raising efforts are also nested within the larger context of a linked international Green Drinks actor-network—with

through the Chinese-speaking population in Asia." (Available at: https://sggreendrinks.wordpress.com/2012/01/19/gree-drinks-lessons-from-changemakers-and-the-lohas-movement/, accessed 14 April 2012).

[237] Mulvihill's (2009: 504) 'emerging environmentalism' includes movement or associational characteristics such as: solutions-oriented for an ongoing urgency; slower/steadier gains; compromising, adaptive and improvisational; pragmatic, dispersed, nuanced and complex; expansive and heterotopian vision with bridging networks; diverse global influence; open to the subtle, paradoxical, ambivalent and contradictory; and a blurring of alternative and mainstream.

[238] One of Green Drinks social media pages (in this case Facebook) is available at: www.facebook.com/ads/adboard/?type=normal. Last accessed 17 March 2012.

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GDS representing one of many local nodes or chapters in a distributed constellation of groups (rather than a 'branch' of a centrally organized formation). Thus, GDS is conceptually allied with over 800 autonomous local non-profit groups operating worldwide.[239]

At a global scale Green Drinks has grown rapidly as a 'self-replicating' and 'decentralised' global network since its inception in 1989.[240] This growth apparently has occurred in tandem with the rapid uptake and use of ICTs, particularly in materially affluent global societies where the bulk of Green Drinks groups are located. These global-local (or g/local) linkages signify one of the processes involved in 'translating' Green Drinks (and its ideals and ideas) into locally-situated Green Drinks actor-networks (Bach & Stark: 2005). Here the info-sociational model can assist in examining how an international 'organizational technology' (i.e. the global Green Drinks concept or 'brand') is being 'translated' in(to) the Singapore context—in a multimodal, multiplexed and multiscalar manner—as a platform for both face-to-face and virtual social interactions concerning environmental issues.

6.2.1.1 From pub talk to a green global network

Green Drinks global origins can be traced to 1989, in London, England, where the concept was initiated in a pub—that historical cornerstone of face-to-face (and sometimes 'in your face') public sphere networking.[241] The originator (and present International Coordinator) of Green Drinks, Edwin Datschefski[242] decided that Green Drinks should be an informal, non-profit initiative that people could easily replicate (or 'translate'—as an info-sociational approach posits). Essentially they developed a model or template—which shapes the internal organizational formation of local Green Drinks groups. This code of conduct emphasizes the importance of openness, freeform, regularity, non-profit intent and so forth—that embeds a decentralized, informal and ad hoc form of actor-networking into the organizational architecture (Box 6.1).[243]

[239] The Green Drinks global website noted: "now active in 803 cities worldwide!" in mid-April, http://www.greendrinks.org/Find. Last accessed 14 April 2012.

[240] See: http://www.greendrinks.org/Press. Last accessed 14 April 2012.

[241] It is briefly worth noting that the colloquial noun use of 'pub' derives from the term 'public house' (OED 1986: 597). Such a note might appear as trivial were it not for the fact that historically the public house (e.g. including Inns, Taverns, etcetera)—along with the coffee house as Habermass has pointed out—was arguably instrumental in the shaping the early modern public sphere including the dissemination of early forms of news, song and stories co-mingling spoken word and printed media.

[242] Apparently Datschefski and colleagues Yorick Benjamin and Paul Scott connected with a number of other eco-minded friends at a pub in North London where the first Green Drinks gathering occurred and where the 'movement' was launched (http://www.greendrinks.org/Press. Last accessed 14 April 2012).

[243] 'The Green Drinks code', Version 2.1, 5 December 2008, is detailed in its full form on the Green Drinks webs site: http://www.greendrinks.org/Start , accessed 8 March, 2012. Also see: http://www.greendrinks.org/Press. Last accessed 14 April 2012.

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Box 6.1: **Green Drinks Code: Version 2.1** (5 December 2008)

- *Open*—'anyone can come', especially geared 'for people working on environmental issues;' 'attendees commit to meeting new people at each session;' and 'newcomers actively welcomed;'
- *Freeform*—'generally no agenda or theme' with an emphasis on co-mingling, sharing insights, provoking, exasperating, inspiring and delighting;
- *Regular*—'usually monthly' often organized with a 'fixed date' during the month;
- *Simple to Organize*—often held in a 'convenient, central location' in a private, independent venue (e.g. pub or bar); can employ email list for invites; initially can start with small group and ripple effects (i.e. friends inviting other friends);
- *Self-replicating*—'people invite others along by word of mouth, who in turn themselves invite others, etc.'; 'email invites' enable forwarding and 'exponential growth;' new cities 'are easy to set up' (often done by people moving to a new locale);
- *Local*—located in cities, towns or suburbs (separated by '45 minutes' of travel time); neighbouring local groups attempt to avoid 'date clashes and being in the same week;'
- *Agenda Free*—'not a channel to circulate announcements or news about environmental issues;' speakers and dialogue stimulation are encouraged but the emphasis is on 'freeform and random' discussion; Green Drinks as an entity 'will never endorse or have a position or stance on an environmental topic;' 'there will be no non-Green Drinks-related content or messages or appeals or ads circulated to the city organizers or appearing on the greendrinks.org website;'
- *Decentralised*—'each city does its own thing;' there is no global 'central mailing list of attendees;' and there is no global 'central logo or branding as each city has its own logo and style to adapt to each location';
- *Non Profit*—organisers are encouraged to use 'free resources and volunteers' and to 'donate their own time'; 'no membership fee', however, voluntary door charges 'to cover costs' (for each event only); attendees 'pays for their own drinks and food'; incorporation is acceptable (e.g. Ltd. company) for larger groups; 'event sponsors and venue hosts' are accepted 'as long as freedom of discussion is not compromised;'
- *Run Responsibly*—'safe, non threatening environment for all'; 'responsible drinking;' 'niche and collaborate with other Green Drinks in their area;' pages on www.greendrinks.org are kept up-to-date with contact email; email lists are not for sale; organizers can mentor, advising and helping other groups;
- *Fun*—'very informal vibe and light overall feel;' benefits are 'hard to quantify' but include people making 'new links', learning, arguing, setting up 'new schemes' and getting 'new jobs.

Source: Summarized from http://www.greendrinks.org/Start. Last accessed 8 March 2012.

Since GDS's inception in November, 2007 it has served as both a physical and virtual multimodal non-profit group involving socio-technically speaking an 'assemblage' of many diverse components, as actor-network theory posits (Horton 2004: 748; Law 2004: 41). This 'assemblage' of both human (directly or indirectly linked to GDS) and non-human actors (technological artifacts, ecosystems, biota, etcetera), includes a potentially lengthy list of GDS-linked actors, such as: the Singapore GDS Founder; Green Drinks event venues and their staff (i.e. restaurants or pubs); event attendees; guest speakers or presenters; pre- and post-event physical and digital (and multimodal) publicity artifacts; linked regional Green Drinks groups; the London Green Drinks Founder; and ongoing ICT (re)mediation tools (like the website, email, blogs, social media sites and microblog handles)—to cite just a few examples.

One of the key actors in the GDS narrative has been the Singapore Founder and organizer of Green Drinks (herein the 'Founder') who organizes regular end of month (typically Thursday) evening gatherings in the island City-State (Interview with GDS Founder 11/16/2010).[244] In spite

[244] It is also notable that the GDS's Founder has chosen during the past five years (2007-2012) to spend a portion of her professional working time organizing the regular events and workshops; arranging venues; handling ICT-linked demands; undertaking long-term strategizing about

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of being a relatively recent and informal associational formation on the Singapore 'civic environmental scene' the localization of the global Green Drinks 'organizational technology,' also arguably shapes a distinct civic-cyberspace in Singapore. The next section takes up this theme.

6.2.1.2 Seeking an shaping civic environmental space in Singapore

A second form of 'translation' involves GDS's role—both internally and externally—in defining a distinct environmental civic-cyberspace where issues can be raised in the socio-political, environmental and ICT context of Singapore. This is of interest not only for understanding the info-sociational dynamics of GDS (i.e. ICT-linked aspects of its actor-networking) but also for understanding the role ICTs may (or may not be) playing in redefining the City-State's historically-bounded civic spaces (see discussion in Chapter Four). To some extent GDS appears to have been carefully testing the boundaries of civic and cyber environmentalism in the City-State. As the GDS Founder expressed with a distinctly Singaporean ambivalence: "we're here to rock the boat a little bit, but not too much" (Interview 11/16/2010). It would seem she views GDS—partially because of its loose network structure—as potentially transcending the rigidities and boundaries which have been instrumental in shaping civic associational life in Singapore (as identified in Chapter Four). Here again, the GDS Founder's observations are prescient:

> *"The problem with all the NGOs in Singapore its seen as very stuffy […] I said OK, since I'm not a registered organization, so what I can do is push the boundaries, a lot. I can go and say things that I feel. I try not get too radical because I am representing Green Drinks and not myself. Like for myself I will say something, but if I know that I am speaking in the capacity of Green Drinks I will tone it down a lot"* (Interview 11/16/2010).

The Singapore Founder of Green Drinks also explained that GDS was not formally structured as a non-profit society or as a charitable organization. Thus, rather than understanding GDS through the 'formal' associational lens—that is as an NGO, charitable or limited non-profit—she suggested that GDS could be described as both 'a group' and 'a movement,' particularly, 'a global movement' (Interview 11/16/2010). Although this characterization of Green Drinks global may not be in accord with scholarly concepts of socio-political or environmental 'movements'—because of its arguably weak 'collective goals' and 'collective identity'—it retains several of the attributes of social movements such autonomous (non-state or non-corporate) and voluntary associationalism (e.g. Tarrow 2005; Juris 2008).

Perhaps ironically this lack of formality and decentralization in some respects has similarities to decentralized networked anti-globalization movements—as Juris's work (2008) has describes—although crucially GDS and the Green Drinks global network are neither an activist network (at

future events; as well as 'externally' representing GDS at the Singapore Green Roundtable (a gathering of civic environmental associations); visiting Asian regional Green Drinks groups; and hosting visitors from abroad.

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least not in any conventional sense), nor is it structurally guided by any such objectives.[245] This does not, however, preclude the possibility that the GDS organizer, members, attendees or speakers have individual affinities with wide range of environmental ideals and ideas, including separate movements and groups. In some respects interest in GDS arguably has unfolded along the lines of g/local digital 'communities of practice' (Sassen 2004: 655)—that is a locally networked formations with 'global span' or reach as Sassen theorizes.

The GDS Founder also suggested that an early emphasis on networking (i.e. 2007-2008)—including face-to-face and virtual collaboration amongst regular attendees and amongst existing Singapore environmental groups—was both beneficial to her (as new civic organizer and businesswomen) and to many of the attendees at regular monthly events (interviews 11/16/2010 and 7/11/2011). The Founder also explained how the head of an existing Singapore non-profit environmental association—Wilson Ang, of ECO Singapore—first encouraged her attempts to form a local group in Singapore (Interview 7/11/2011). Ang's support early in GDS's formation—essentially acted as an 'obligatory passage point' (or what the GDS Founder termed a "conduit") to the Singapore environmental community—helping build key ties with civic environmentalists and the GDS global network. For example, the GDS Founder made this observation about Ang's early involvement and the role of other civic environmental associations:

> *"[H]e did a really important thing by inviting all these NGO people. That was a good strategy […] I mean it wasn't deliberate, but I felt the NGOs had to be there. He just invited them because I didn't know many people"* (Interview 7/11/2011).

Rather than compete, GDS has arguably complemented the work of Singaporean civic environmental associations because it assists groups by connecting them with a group of citizen environmental enthusiasts—potentially keen new members. The informal networking space (less 'stuffy' than NGOs, as the founder suggested) and GDS lack of ties to external funders has given it a degree of financial and ontological autonomy including an ability to experiment with regular themes and practices (including ICT practices). The GDS founder discussed this further:

> *"So how I see Green Drinks is like we just run it alongside the NGOs. And NGOs do a great job here. But we know their limitations because there are some investors. Because there [are] already corporate[s] that are like giving them money"* (Interview 11/16/2010).

Besides the problems linked with financial 'strings attached' from business—possibly limiting degrees of associational freedom or clouding positions in the event of contentious issues—the GDS Founder suggested that Singapore green groups have been 'very conservative' in terms of activism and cyberactivism, largely due the need to maneuver with the government which has

[245] Notably the Green Drinks Code (Version 2.1, 5 December 2008) suggests that Green Drinks as an entity, "will never endorse or have a position or stance on an environmental topic." Available at: http://www.greendrinks.org/Start. Last accessed 8 March, 2012.

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traditionally had a paternalistic view towards civic issues advocacy or politicization amongst civic groups (interview 7/11/2011; also see Chapter Four).[246]

Table 6.1: **Degree of importance attached to various practices in GDS's current work**

Practices	high	moderate	low	none	n / a
watchdog practices	___	■	___	___	___
natural / built conservation	___	■	___	___	___
information & education	■	___	___	___	___
scientific research	___	___	■	___	___
policy lobbying	■	___	___	___	___
grassroots organizing	■	___	___	___	___
civil society alliance-building	■	___	___	___	___
government partnerships	■	___	___	___	___
green / social enterprise	___	___	■	___	___
business partnerships	■	___	___	___	___

Source: Question #2, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia'. The question was phrased as follows: "How important are each of these practices in your association's current work and activities? High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

It is important to note that the GDS Founder was also clear about being self-employed in the field of environmental public relations whilst simultaneously operating GDS as non-profit 'service.'[247] Her involvement with Green Drinks appears to typify some of the types of ideals and interests in environmental issues and mutual-learning that often motivates those committed to environmental causes as Castells' (1997: 112-131) describes; yet with some of the paradoxes identified by Mulvihill (2009: 504). One such paradox would appear to be how networked environmentalism at least appears to prioritize green business networking or green consumerism above environmental justice issues.[248] Another perspective on the degree on GDS's 'issue network' (Marres 2006) is in how it assesses the importance of various practices in its current work (2011) (identified in Table 6.1).

[246] In both interviews the GDS Founder noted her ambivalence about garnering external or formalized sponsorships. She suggested that while some Green Drinks groups have solicited financial sponsorships (like Sydney, Australia's Green Drinks), others remained essentially self-funded or self-sustaining, and therefore largely autonomous (Interviews 11/16/2010; 7/11/2011). In this regard the financial or temporal burden sometimes was borne by the Founder, as evidenced by this comment: "But with Green Drinks right, because it's a non-profit a lot of the stuff comes out from my own pocket. And sometimes I open a jar [for garnering donations at GDS meetings] that's how I keep it sustainable" (Interviews 11/16/2010).

[247] The GDS Founder has also worked as a 'freelance copywriter' and 'part-time communications lecturer' (https://sggreendrinks.wordpress.com/media. Last accessed 18 March 2012).

[248] This arguably relates to a larger debate in environmental circles and in the literature (e.g. see Harvey 1990) about the extent to which neoliberal norms driven by government-business alliances are shaping regulatory priorities (e.g. deregulation) and sidelining or obfuscating local environmental justice priorities.

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Certainly GDS discussion themes and guest speakers have been wide-ranging and have included diverse topics such: 'permaculture,' 'toxins in skincare products,' 'electric vehicles,' 'biofuels,' 'sustainable urban planning,' 'non-toxic household products,' 'recycling,' 'biological and pest management,' 'biodegradable plastics,' amongst others; and GDS has also sponsored workshops such as a natural soap-making session (www.eco-business.com/blog/are-you-green-drinking/. Last accessed 1 February 2010; Interview 11/26/2010). Thus the GDS Founder appears to be interested in both contributing to an idealistic process of reshaping or creating a novel civic environmental space (and inputs into a green 'issue network') in Singapore, while at the same time cultivating relationships that may in future be of benefit to her own 'green business' (Interviews 11/16/2010 and 7/11/2011).[249] However, such approaches to associational leadership also has its detractors—arguing for example that market norms and reforms; and techno-managerialism are insidiously undermining (or appropriating) the ideals and ideas generated in civic associational life and blurring 'firewalls' of checks and balances between the government, business and civil society (associational) spheres—such as the 'revolving door' and obvious conflicts of interest between government and business regulators. This aligns with critiques that identify how ICT-linked market or commercial norms appear to be undermining internal critical thinking and grassroots activism (e.g. Dean 2010; Tatarchevskiy 2010). Rather than expanding the debate on motivations driving civic environmental associations here, however, this case will more deeply explore how the GDS's 'issue network' and actor-network formations are co-evolving with its ICT-linked practices—as advanced in the next section.

6.2.1.3 ICTs as actor-network 'enrollment' and 'maintenance' devices

Both internal and external ICT-linked organizational activities at GDS includes the basic need to respond to emails; to update the blog/website; and to disseminate notices and event information multi-modally via email and often in parallel on social media commercial feeds (i.e. Facebook, Linked-In) along with micro-blogging feeds (i.e. Twitter); and digital 'news' feeds (i.e. RSS). Yet, despite the apparent popularity of micro-blogging and social media sites many GDS visitors prefer to be added to an email list the Founder indicated (Interview 7/11/2011).[250] Since GDS's inception in Singapore the Founder noted that she has been responsible for maintaining all the organizations' ICT-linked tools and platforms (Table 6.2). Illustrating the 'permanently beta' of ICT practice dynamics in civic associations, micro-blogging (i.e. Twitter) has been added to GDS's 'uses of ICTs tools or platforms' since the survey for this investigation was conducted in mid-2011.

[249] See Cheng (2009: 114; 175-183; 263) for a discussion on the various motivations shaping social associational involvement (e.g. altruist vs. social entrepreneurs) and financial support in non-profit charities (e.g. altruists vs. communitarians), including from a Singapore civil society / charities context.

[250] Although it was not explained why this was the case, we can speculate that email is more commonly used or considered a more commonly used personal tool than these other social media tools in this case.

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***Tabl*e 6.2: Duration of GDS's uses of ICT tools or platforms [years]**

Use of ICT tools / platforms	11+ years*	9-10 years*	7-8 years*	5-6 years*	3-4 years	1-2 years	0-1 years	non use	unsure
social media page									
micro-blog									
active web site									
GIS map									
videos									
web logs (blogs)									
email discussion list									
web conferences									
e-newsletters									
SMS / phone alerts									
hosting e-petitions									
formatted e-letters									
online surveys or polls									
online forums									

*[note GDS was formed in 2007 and was 4 years in age at the time of the survey]
Source: Question #4, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia.' The question was phrased as follows: "As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms? In 2001 or earlier; in 2001-02; in 2003-04; in 2005-06; in 2007-08; in 2009-10; in 2011; we do not use this ICT / or no longer use; not sure" (Sadoway 2011).

In this respect ICTs may be understood as devices for the local 'enrollment' of new or possible GDS members—by adding them to email lists and sending electronic event notices (on social media for example)—as well devices or tools for actor network maintenance.[251] This includes social media networking and knowledge or issues networking including: exchanging chat, sharing news; blogging/reporting events, as well as event archiving (Interviews 11/16/2010 and 7/11/2011). This also features linking (or maintaining ties) within the broader Green Drinks global network on the part of both the GDS Founder and local members. Notably, the GDS Founder has also served as a moderator for a Singapore related environmental e-discussion group on a commercial service (a Yahoo Group online forum) (Interviews 7/11/2011). Apparently, the Founder has considered reducing her ICT-related work, at least to some extent, explaining:

> *"[Site maintenance] is something I am looking at outsourcing, like hiring someone and getting that person to do it. But I still have a hands-on view of the whole of all the activities"* (Interview 7/11/2011).

ICT practices at Green Drinks remain heavily centred on publicity, communications and (re)mediation and as well as digitally archiving past events. In addition, the current approach of multimodal or multiplatform postings on the Green Drinks blog—with simultaneous parallel

[251] ANT refers to 'mobilization' rather than 'maintenance' but the intent is the same and refers to attaining loyalty and stability and network cohesion, or shared identity (see: Callon et al., 1986: xvi; Holmstrom and Robey (2005: 168-169).

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postings to social media platforms and microblogs—takes advantage of digital media multiplicative effects. For instance, a single e-posting (such as an event invitation) can be multiplied on a number of platforms (and in turn remediated by the target recipients). An example of such an event posting, a social media invitation received for a GDS marine ecology-related event in 2012, is show in Figure 6.1.[252]

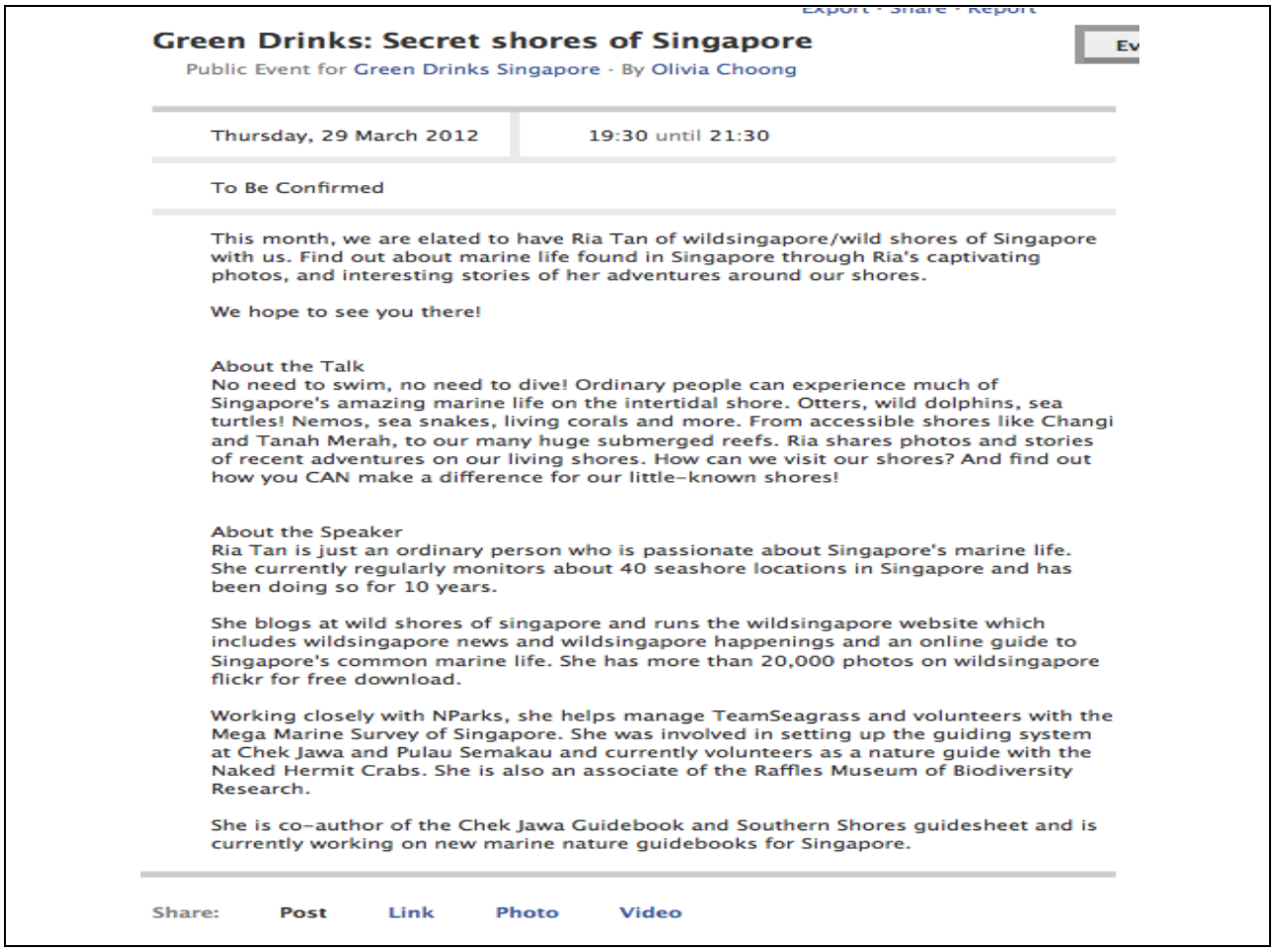

Figure 6.1: **Multimodal digital invitations for GDS events.** Distributed in parallel on its blog/website, social media platform and recently to a micro-blogging service. This example is of a GDS invitation sent to a commercial social media platform (Facebook).
Source: https://www.facebook.com /events/369943063037437/. Last accessed 17 March 2012.

Although GDS has extended its networks via ICT mediation and multiplication—for event publicity (i.e. multimodal announcements); for digitally archiving (i.e. cumulatively building a digital 'institutional memory'); and social media networking—one of the important limitations

[252] At the time of the interview it was noted that approximately 1,160 Facebook fans/friends and 408 LinkedIn (a commercial social media network) connections were made with GDS (Interview 7/11/2011). In addition, the GDS Founder noted that attendees often included individuals working in the creative industries, consumer-related businesses and the building/land development industry (Interview 11/16/2010).

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of ICTs was suggested as being culturally constructed. The GDS Founder discusses where personal and socio-cultural limitations or filters may come into play when employing ICTs. She elaborated:

> *" I think its [ICTs] just got its limitations […] I think it depends on culture as well. Like in Asian culture we like to meet and you know it's the whole 'guanxi,' the whole relations thing. So for me it really depends on this person, if I can settle it on the phone I will, but if there's so much stuff that I am more comfortable discussing and meet the person [...] I think it's still important to meet face-to-face, but it depends on what for"* (Interview 7/11/2011).

This underlines the importance of understanding how ICT knowledge and practices are being translated—not only in unconventional civic formations like GDS—but also in relation to their city-specific local socio-cultural context. Yet, as Chapter Four has discussed, the affluent Asian tiger cities have gone further than many other parts of the globe in adopting and employing ICTs. Here it is also worth noting that besides ICTs arguably shaping and being shaped by local cultures—including locally-unique 'cybercultures,' as Lam & Ip (2011) contend—digital practices also suggest a new 'culture' of home-based environmental organizing (Horton 2004; Marres 2011).[253]

The GDS Founder's combining work with a home-based business and her personal civic environmental interests arguably illustrates how ICTs can potentially enable the shifting of civic-cyber environmentalism (or more green business in this case) to the home front—as both Horton's (2004) and Marres' (2010) research has suggested. Whether in the long-term such change represents a '24/7 e-prison;' or instead, an opportunity for home-work life rebalancing remains to be seen. Notably Laguerre's (2005) work on telework, the cyberweek (versus civic workweek) and the digital office has identified how problems and possibilities are organizationally playing-out in the digital city. In relation to the paradoxes of ICT practices, GDS environmental actor-networking and work-life balance, Haraway's (1991: 170) suggestion—as part of her 'Cyborg Manifesto'—for embracing opposites is noteworthy. "Networking," Haraway suggests, "is both a feminist practice and a multinational corporate strategy—weaving is for oppositional cyborgs" (Ibid.).[254] How personal translations of ICT practices are being woven into concerns about civic environmentalism in GDS's work will be the focus of the next section.

[253] Indeed, the GDS Founder posited that the ICTs-related aspects of her own environmental networking and organizing involve such personal translations of technology into her life. For instance, she suggested: "But at the end of the day it's just like how people use it and how they manage it. For myself I try to use the Internet right for whatever I have to. So it's there to pass on information or to organize current events. Here we are having a conversation via the Internet. That's why I hate chats, MSN or Facebook chats they are so distracting. It really depends or how the organizer uses. But personally I think we need to have limitations of each media and go for it. I still like meeting in person" (Interview 11/16/2010).

[254] Here Haraway's (1991: 170) suggestions that the contradictions of the network society need to be explored beyond basic binaries such as factory/home, market/home, personal/political—remain prescient. She suggests, "I prefer a network ideological image, suggesting the profusion of spaces and identities and the permeability of boundaries in the personal body and in the body politics" (Ibid.).

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6.2.1.4 Translating civic environmental actor-networking as: 'trendy and very exciting'

The final form of socio-technological 'translation' discussed here involves recontextualizing longstanding forms of civic environmentalism in relation to GDS's events and activities and uses of ICTs. The GDS Founder and event attendees have, for instance, become exposed to the civic environmental scene in Singapore—essentially a 'civic environmentalism 101' crash course—in learning about the work of longstanding Singapore environmental groups like the Nature Society (Singapore), Singapore Environmental Council, ECO Singapore, ACRES, SAVE, WildSingapore, WWF Singapore. Such translations—in the form of the transmission of campaigns, scientific, scholarly/academic and experiential knowledge—occurs in face-to-face talks, panel events, speakers, training sessions, workshops, film documentaries or discussions; as well as via ICT mediated messages and links about related activities and activism. These exchanges amongst various Singapore groups at GDS are shaping new types of 'knowledge communities' (Bach & Stark 2005); as well as generating 'civic environmental intelligence' (adapted from Schuler 2002). Translating how civic environmentalism works within GDS to its members relates back to two of its key associational foci: sharing and collaborations.[255]

The Founder explained that GDS had an early emphasis on personal networking (in the first year); guest talks/events on a variety of environmental issues (in the second year); along with a focus on workshops, documentary film screenings (in its third year); and more recently an emphasis on collaborations and actions during 2011-2012 (Interview 11/16/2010). Examples of the regular monthly event themes and event formats are shown in Table 6.3. Organizationally the founder's public relations training was also evident in her views about how GDS could attract people who are concerned about environmental issues:

> *"Because I want to see Green Drinks as something that's very trendy and very exciting and people want to be there, even though, you know it's a free event. And also collaborate with other people and have all sorts of different types of audiences"* (Interview 11/16/ 2010).

The bulk of GDS activities appear to resonate with an apparently growing interest with the green household, green enterprise, and corporate social responsibility in Singapore.[256] This may also correspond with the GDS founders' suggestion that attendees might consider 'rocking the boat a little bit, but at the same time not too much'—as previously noted. Interestingly, GDS appears to be providing a platform for an interest in civic-cyber environmental networking amongst Singapore's sizeable middle classes. Those attending GDS are frequently interested in green business networking and including those who would like to do something for the environment but are uncertain as to how suggested the founder (Interview 11/16/ 2010).

[255] For instance, the GDS Founder explained: "[S]o the idea is knowledge sharing and collaborative opportunities. Just pushing for these two [things]. So besides having speakers, I also am open to having discussions. And then I do the odd documentary screenings. What else do I do? Workshops as well" (Interview 11/16/2010).

[256] For example, this issue was identified during interviews with the Singapore Environmental Council (8/18/2009; 11/12/2010; 8/25/2011) and with the Singapore Compact (8/12/2009).

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GDS's 'issue network' framing of environmental issues as business opportunities (evident by the many business-related links on its website) it could also be suggested in some respects it appears to dovetail with the Singapore government's focus on generating economic and business opportunities from sustainable development as identified in Chapter Four.[257] Indeed some critiques would suggest that lifestyles of health and sustainability (LOHAS) or green consumerism; and generating green business opportunities simply do not go deeply far enough towards addressing the multiple roots of the ecological crisis nor the threat of environmental and socio-economic disasters (or vulnerabilities) facing many communities and bioregions.[258] Here it is worth asking: is GDS simply another elite professional discourse community—bubbled from the stark realities and power politics (and at times, dirty politics) often underpinning g/local environmental injustices? Or alternatively, is it amongst the vanguard of a subtle, yet perhaps transformative, or even emergent oppositional form of environmental politics in Singapore? And has Green Drinks Singapore helped to seed new knowledge and issues networks through its convivial face-to-face events (and ICT-linked activities) that demonstrates a potential for pushing civic environmental associational bounds? The next two sections will attempt to examine these questions more fully.

Table 6.3: **A sampling of Green Drinks Singapore events themes (2007-2012)**

Year	Event theme / activity	Event format
2007	First GDS session	networking session (29 Nov)
2008	Sustainable Singapore Vision	moderated discussion (28 Aug)
2009	Ground Up Initiative overview	talk (29 Jan)
2009	Sustainable Asian Cities	talk (30 July)
2009	Permaculture session	panel and talk (29 Oct)
2010	NGO collaboration & planning	brainstorming session (28 Jan)
2010	NUS recycling case study	talk (1 July)
2010	Dialogue on consumption	improvised exploration (28 Oct)
2011	KTM railway lands potential	talk (27 Jan)
2011	Eco-business.com & CleanTech Happy Hour	collaborative event (27 July)
2011	Waste Management & Recycling Association of Singapore – Veolia joint event on recycling	sponsored talk (12 Oct)
2012	China's environmental problems— Greenpeace East Asia Sustainable Finance	talk (4 Jan)

Sources: Compiled from author's synopsis of event themes at Green Drinks Singapore's website/blog, http://greendrinks.org/Singapore/. Last accessed 24 November, 2011.

[257] Nor should this unduly shape the impression of GDS since one could argue that sustainability and a business orientation would appear to involve a close co-mingling, at least within the contemporary Singapore environmental scene. For example, in the second interview with the GDS Founder (7/11/2011) it was noted that the Conservation International's head Land Eng had stepped down to become involved in his own business; and the Singapore Environmental Council Executive Director had also later stepped down to become involved in an regional Energy company (Halcyon).

[258] For example, the work of civic environmentalists (including digital environmental justice scholars) reminds us of the need to envision and design technological pathways that *integrate* socio-economic and environmental justice (Shutkin 2000; Shulman et al.,2005). Other scholars contend the need for civil society to remain closely focused on bioregional issues linked to local ecosystems decline (e.g. Carr 2004) such as the 'eco-city movement,' or the '100 mile diet movement,' and the 'slow cities' movement.

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6.2.2 GDS's participatory practices

The translation of an international concept (Green Drinks) into a local setting has arguably positioned GDS into the realm of the political and the participatory. This is not so much because 'global' environmental issues are seen as politically-charged; whilst 'local' environmental concerns are viewed as *apolitical*—despite the persistent norm in Singapore that 'politics' need only be confined within the bounded bubbles of parliament or acceptable/approved media discourse (see Chapter Four). For example, Lee (2010) has described this aversion to politics in Singapore to his conceptualization of 'gestural politics' and civic 'auto-regulation.' But besides GDS arguably representing a participatory civic-cyberspace by virtue of its interactive g/local actor-networks how do its practices illustrate either environmental politicization or civic-cyber engagement with issues? Three examples will be discussed here: first, the GDS 2011 'election forum' and the politics of civic environmentalism; second, GDS's experimental use of micro-blogging and its more 'traditional' email practices; third, GDS's involvement in the 2010-11 Green Rail Corridor campaign tied to rapidly formed civic coalition involved in urban environmental visioning and counterplanning—and also to nascent forms of cyberactivism in Singapore.

6.2.2.1 Greening the election campaign

The 2011 'Green Drinks Election Special' (GDES) (19 April 2011) not only illustrates a civic associational initiative as physical and digitally notified 'public-sphere' activity—akin to Castells' (2008) 'new public sphere' and its networked aspects.[259] The event also demonstrates an apparently growing alternative to mainstream discourse arrangements in Singapore in recent years noted by some observers as Chapter Four discussed. The GDS founder suggested that the election event was organized because she believed that environmental issues had not been playing a major role in the 2011 General Election campaigns (Interview 7/11/2011).

The GDES session, as described in Singapore's mainstream popular press: "featured seven panelists, one moderator as well as an 80-strong audience discussing the role of green issues in the general election."[260] Despite time limitations with their venue (and a late panelist), the GDS founder characterized the GDES as a success because it attracted a sizeable audience; involved an active panel discussion and garnered wider media attention.[261] The GDES event notice posted on the Green Drinks Singapore blog/website is shown in Figure 6.2. Arguably the nature

[259] Another GDS panel session on the Singapore National Climate Change Strategy (2012) was held in consultation with the National Climate Change Secretariat on October 27, 2011. See: http://greendrinks.org/Singapore/clist. Last accessed 24 November, 2011.

[260] Indicated on the GDS website/blog as being located at: *Today,* 20 April 2011: 30. Available at: www1.todayonline.com/shobycolours/green/people.htm.

[261] The GDS Founder further described the GDES event and the momentum that she felt it generated: "We were really on a roll in the beginning as with these things, people are a bit quiet then suddenly everybody wants to say something. […] It was awesome because we had people from NGOs [SEC, Eco, NSS and EveLife], businesses, journalists. Jessica Cheam from *The Singapore Straits Times* as moderator, and Nominated Member of Parliament Edwin Khew, who is now chair of Sustainable Energy Association of Singapore" (Interview 7/11/2011).

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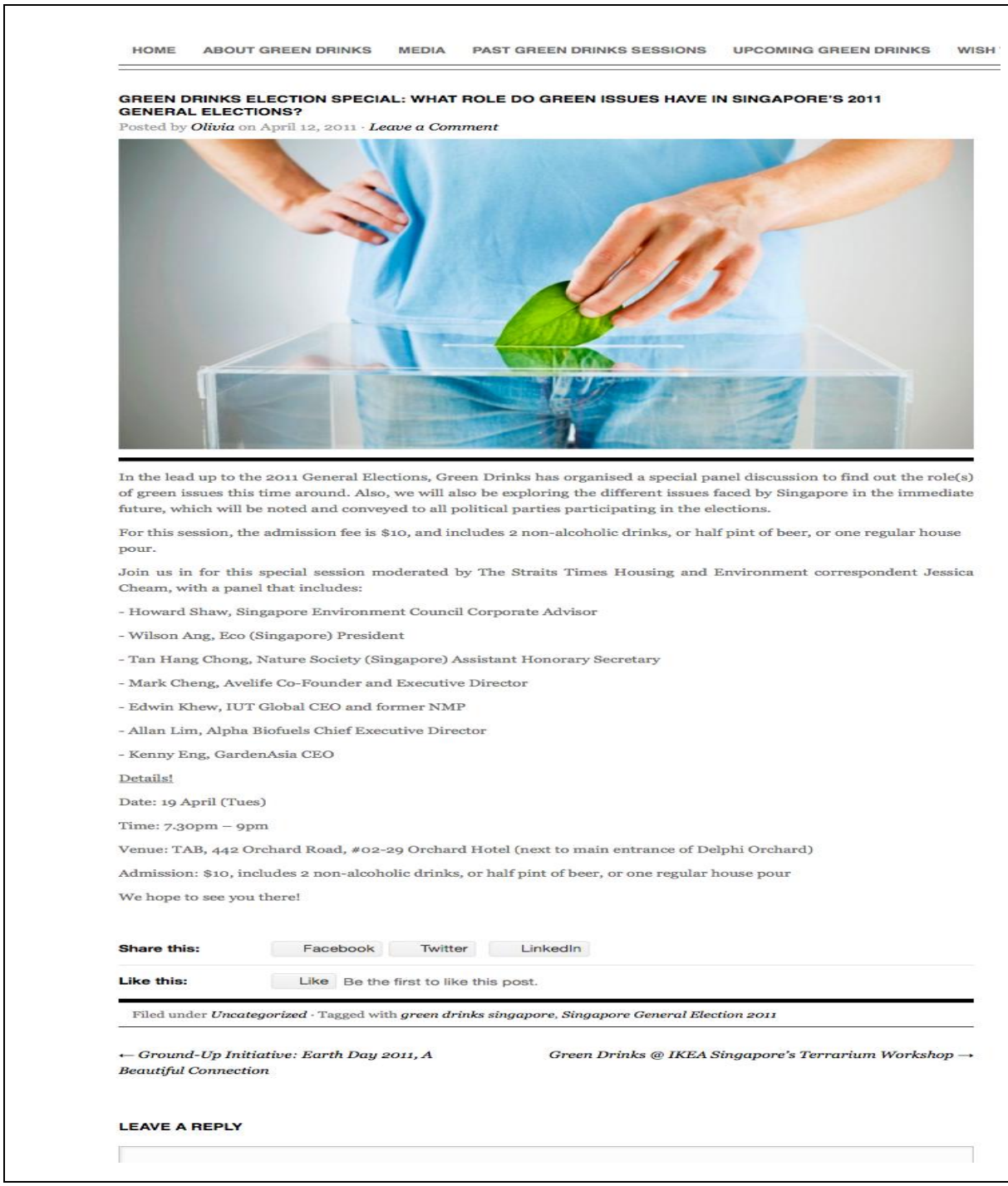

HOME ABOUT GREEN DRINKS MEDIA PAST GREEN DRINKS SESSIONS UPCOMING GREEN DRINKS WISH

GREEN DRINKS ELECTION SPECIAL: WHAT ROLE DO GREEN ISSUES HAVE IN SINGAPORE'S 2011 GENERAL ELECTIONS?

Posted by *Olivia* on April 12, 2011 · *Leave a Comment*

In the lead up to the 2011 General Elections, Green Drinks has organised a special panel discussion to find out the role(s) of green issues this time around. Also, we will also be exploring the different issues faced by Singapore in the immediate future, which will be noted and conveyed to all political parties participating in the elections.

For this session, the admission fee is $10, and includes 2 non-alcoholic drinks, or half pint of beer, or one regular house pour.

Join us in for this special session moderated by The Straits Times Housing and Environment correspondent Jessica Cheam, with a panel that includes:

- Howard Shaw, Singapore Environment Council Corporate Advisor
- Wilson Ang, Eco (Singapore) President
- Tan Hang Chong, Nature Society (Singapore) Assistant Honorary Secretary
- Mark Cheng, Avelife Co-Founder and Executive Director
- Edwin Khew, IUT Global CEO and former NMP
- Allan Lim, Alpha Biofuels Chief Executive Director
- Kenny Eng, GardenAsia CEO

Details!

Date: 19 April (Tues)

Time: 7.30pm – 9pm

Venue: TAB, 442 Orchard Road, #02-29 Orchard Hotel (next to main entrance of Delphi Orchard)

Admission: $10, includes 2 non-alcoholic drinks, or half pint of beer, or one regular house pour

We hope to see you there!

Share this: Facebook Twitter LinkedIn

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← *Ground-Up Initiative: Earth Day 2011, A Beautiful Connection*

Green Drinks @ IKEA Singapore's Terrarium Workshop →

LEAVE A REPLY

Figure 6.2: **Event notice for the Green Drinks Election Special (held on 19 April 2011).**
Source: https://sggreendrinks.wordpress.com/2011/04/12-green-drinks-election-special-what-role-do green-issues-have-in-singapores-2011-general-elections/. Last accessed 14 April 2012.

of this event was also illustrative of the recent suggestions of an 'opening up' in political discourse (and debate) in relatively low controversy events that shape Singaporean civic space.

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Although the GDES was promoted using ICTs—the GDS blog/website, social media and email notices—there appears to have been little in the form of (re)mediation of the event online (e.g. online video, live or post-event blogging or twitter feeds). The event demonstrated blended aspects of in-person and online advanced notice/discussion outside of mainstream channels—which in Singapore have tended not to promote civil society, fringe, and alternatives to government approved events. GDES also arguably demonstrates a reconfiguration of the City-State's public sphere outside the bounds of mainstream media and approved public forums. Perhaps illustrate of the changing political climate in Singapore the GDS founder openly discussed an interest in political issues and political life, connecting the discussion in Chapter Four on the links between associational life and political life. The GDS's founder has channeled her personal political passions (and aspirations) into organizing this environmentally-focused public forum—a organizational or logistical scenario likely unimaginable in Singapore before the 'Internet era.'[262] But rather than focusing on the politicization of environmental issues in the institutional sense, the next section will examine the role of ICTs in activating public interest in (re)shaping the green public sphere in Singapore.

6.2.2.2 ICT-linked tools (re)shaping a 'green public sphere'?

The info-sociational model suggested that ICT-linked practices may be reconfiguring the public sphere. This section explores this issue in the context of GDS. For example, GDS has recently experimented at a recent monthly event with commercial micro-blogging ("Secret Shores of Singapore," 17 March 2012). This included the use of live micro-blogging—in this example, a Twitter feed consisting of short text extracts, with cross-referenced hyperlinks of the evening talk. These were subsequently aggregated and remediated on the GDS website/blog. As a prelude to the event synopsis (i.e. 'retweets'), the GDS website/blog indicates:

> *"For those who were not able to make our March session of Green Drinks, the event was live-tweeted under the handle @oliviachoong, and here are some of the talking points…"*[263]

The invited guest's talk—an active environmental blogger and off/online environmental activist from the Singapore non-governmental organization WildSingapore—focused on Singapore marine life, shorelines and threats which they have (or are expected to face) as is noteworthy GDS's remediated talking points and links.The synopsis and cross-referenced links allows GDS blog/website visitors to learn more about the talk and related information (such as development plans and volunteer opportunities).

[262] This passion—intoned in the GDS Founder's interest in public political life—was stated in a characteristically tentative Singaporean manner: "I am looking at going into politics, so basically I want to be careful what I say" (Interview 7/11/2011).

[263] Available at: https://sggreendrinks.wordpress.com/2012/03/31/highlights-from-ria-tans-talk-on-the-secret-shores-of-singapore/. Last accessed 14 April, 2012.

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Such remediated blending arguably illustrates Castells' (2008) suggestion that the digital tools (such as social media) are configuring the public sphere (as the info-sociational model identifies). Adaptive experimentation with ICTs also arguably demonstrates the 'permanently beta' (Neff & Stark 2002; Bach & Stark 2005) organizational flux in relation to the co-evolution of civic environmental associations and technology. To some extent the GDS's efforts discussed above also appear to fit into Yang and Calhoun's (2007) concept of the 'green public sphere,'—such as uses of media and talks as forms of 'green discourse'—with civic associations create both on and offline platforms for generating public environmental discourse. The examples cited above with GDS suggests the possibility of extending and blending Yang and Calhoun's (2007) concept of 'green public sphere' with Castells's 'new public sphere' for application to local democratic (or quasi-democratic) settings such as Singapore, Hong Kong and Taipei.

Another participatory info-sociational practice was evident in the GDS founder's apparent involvement as a moderator for a small environmental discussion group on a commercial email service (Yahoo groups) (Interview 7/11/2011). This role serves as a reminder that the GDS founder acts in multiple roles 'outside' of her Green Drinks capacity, remaining interested in online discussions about environmental issues—in some ways also serving as a 'obligatory passage point,' in Singapore civic actor-networking. For example, the GDS founder identifies her role as in informational intermediary, suggesting: "basically, I see myself as a connector online and offline" (Interview 11/16/2010). Indeed, it appears that her GDS-related activities have increasingly become online: "I think I spend a lot of time on emails. I don't meet people as much these days" (Ibid.).[264] This suggests that email, Horton (2005) identified amongst environmentalists, remains a critical communications tool for green networking.

GDS public gatherings for talks, film documentaries or digital networking about environmental issues—are mediated via email and (re)mediated in social media and micro-blog as well as RSS feeds—arguably is illustrative of how multiplexed digital practices are reshaping the public sphere, akin to Castells (2008) observations. As well, Yang and Calhoun (2007: 212, 224-225) argue that 'green public sphere' activities involving, "television programs, radio programs, newspapers, magazines, leaflets, flyers, posters," are intermixed with ICT-practices such as email, websites, blogs and online discussions. Besides arguably deepening the civic-cyberspace for participatory and public sphere engagement in Singapore, GDS has also recently found common cause within a multiplexed coalition of civic-cyber activists interested in the Rail Corridor campaign. This will be the focus of the next section.

6.2.2.3 Finding common cause in urban sustainability

GDS's peripheral involvement in another type of participatory activity involves its 'supporting role' in an urban sustainability campaign which occurred in 2010-2011 and which aimed for the implementation of a conservation / sustainability concept for the decommissioned Malaysian

[264] She also suggested that this may be a personal reaction to a wider social phenomenon she had observed: "I think these days people don't like getting phone calls that much. Or maybe that's just me. […] They are just happy to look at emails and say ok this is when it is. And people are just busy, or I don't know what it is but they just seem to prefer to see the details rather than getting a call and having a conversation about it" (Interview 7/11/2011).

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Railway (KTM) corridor lands (see Box 6.2). Besides being related to a Singapore-wide active public sphere discussion—both physically and virtually—the unfolding of this issue involved forms of cyberactivism including participatory social media and spatial practices, such as civic-cyber associational alliance formations.

The GDS founder—as a member of the 'Green Corridor Working Group'—provided a supporting role amongst many other civic group and individual members in this 'fast track' and 'issues-oriented' actor-network. The GDS founder, for example, assisted in generating publicity in interviews (including an online television platform interview) and added relevant links and updates to the Green Corridor campaign website on GDS media and in regular events (Interview 7/11/2011).[265] The Green Corridor collaboration also illustrates the importance of adaptive, decentralized (and digital) activist alliance formations (discussed further in relation to 'spatial practices').[266]

Box 6.2: **Green Drinks Supports the Green Corridor (2010-2011)**

After the Keretapi Tanah Melayu (KTM) or Malay Railway land transfer from Malaysia to Singapore occurred in May 2010—resolving a '20 year impasse' between both governments—the railway was subsequently with the closed to rail in the summer of 2011 to traffic along the north-south ex-KTM rail line right-of-way which bisects the Island of Singapore. At the same time the opportunity arose for the possibility of conservation of the corridor—particularly advanced in a Nature Society of Singapore-sponsored proposal which envisioned possibilities for conversion of the former KTM lands to a linear protected space including for natural and heritage conservation as well as recreational and public access purposes. A crucial aspect in this co-operative effort was the emergence of a multiplexed alliance that included an ICT-facilitated discourse on the Green Corridor Working Group website (www.thegreencorridor.org) and a 'We support the Green Corridor in Singapore' Facebook page'. This alliance consisting of design professionals, nature lovers and interested citizens advanced the NSS proposal and the overall hopes for conversion of the corridor to a linear green space legacy for Singapore. The founder of Green Drinks Singapore (GDS) joined the Green Corridor Working group and along with supporting the NSS proposal (including in the Singapore media) has featured links on the GDS blog/website and provided updates for its member-network (including an event speaker theme talk).

— Sources: Interviews with GDS Founder 11/16/2010 and 7/11/2011; Nature Society 2010b; *The Online Citizen*, http://theonlinecitizen.com/2010/12/ktm-railway-land-a-walk-on-the-green-side/. Last accessed 1 December 2010 ; *The Singapore Straits Times*: 26 May 2011, available at: www.straitstimes.com/BreakingNews/Singapore/Story/STIStory_531543.html; the Green Corridor website, www.thegreencorridor.org, accessed 31 July, 2011; The Green Corridor Facebook page: https://www.facebook.com/thegreencorridor?sk=wall. Last accessed 31 July 2011.

Part of the apparent success of the Green Corridor campaign—with the Singapore Minister for National Development, in July 2011, agreeing to an as of yet unspecified degree of protection for the ex-railway corridor as identified in *The Straits Times* (Low 2011b)—may have been attributable to the timing of the issue in the post-General Election period (in May of 2011).[267]

[265] For example, the GDS Founder participated in an interview-discussion about the conversion of the 'KTM railway to a green corridor' (The Singapore Straits Times, RAZOR-TV, Part 4, 8 January 2011).

[266] Adaptive suggests the approach taken in relation to the Singapore government response. For example the GDS Founder suggested, "And we just wanted to wait and see as well just to see what the government does. And if they then say OK we're going to do something about it. So we didn't want to start-off with a petition because the government's not doing anything yet, so what are we petitioning against, right. So it was a lot of really testing the waters to see what's going to happen, and finally this went really well" (Interview 7/11/2011).

[267] 'Apparent' is noted here because at the time of the Singapore interviews it remained unclear the extent of protection for the former KTM corridor and the configuration of possible developments inside the land tract. In the elections the leading Singapore People's Action Party (PAP

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The GDS founder suggested: "This is one of the very few times that when it comes to the environment that they [the PAP government] actually asked for feedback" (Interview 7/11/2011; also see: Lee 2012).[268] Linked with supportive coverage in mainstream media—with feedback cycles occurring between new media and traditional media—the Green Corridor issue was placed firmly into the Singapore participatory public sphere, both online and off.

The GDS founder also identified the important role of new media in the Green Corridor campaign, including the key work of a local social entrepreneur and blogger- environmentalist:

> *"So Eugene Tay [of] thegreencorridor.org, right, he said, oh here's what you can write to your M.P., you can write to these other people [such as government agencies]. So I think people did write in and said look please do something, we want this, and stuff like that. And I think there was a bit of public pressure […] But it did appear in the press a lot. And you know fortunately The Straits Times has taken on the issue as well. […] You have people writing. You have in Singapore the Today newspaper right which is a free sheet and very, very popular as well and distributed everywhere. You have people writing in and saying no we should really look at the Green Corridor"* (Interview 7/11/2011).

Similar to the extensive use of one-person-one-letter (OPOL) digital campaigns notable in the DHK case above (Chapter Five); the Green Corridor digital activists employed social media and website and multimodal cross-referenced links (such as to the NSS's proposal) to target letters to key politicos.[269] Moreover, once it became apparent that support existed within government—signaled through the development of a URA website[270]; through heavy coverage in the *The Singapore Straights Times,*[271] and through a key official's announced 'walk along the corridor' (Minister for National Development, Khaw Boon Wan)—it apparently had become less clear whether the civic associational position (i.e. the Support the Green Corridor Group and the NSS position paper (Nature Society [Singapore]: 2010b) was largely appropriated by the state for post-election face saving purposes (i.e. improved public consultations); or whether the

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while being re-elected, suffered a comparative loss of votes (and seats) compared to the previous General Election and therefore may have been compelled to engage in consultative governance arrangements (Interview 7/11/2011).

[268] She added: "I heard that initially, it would be a really tough fight. But surprisingly the government are really listening. And I think elections had something to do with it" (Ibid.) (Interview 7/11/2011).

[269] A diverse group of civic environmentalists' efforts helped to make the Green Corridor issue 'public', involved the campaigning efforts of traditional environmental groups like the NSS, as well as the involvement of non-traditional alliances (including GDS) which employed ICTs as a medium for dialogue and debate. On its own the social media and website might be simply considered portals or platforms for public discourse—limited bloggers, web or Facebook users. However, when combined with wider media attention (e.g. from the mainstream media such as the *Singapore Straits Times* and the free daily *Today*), and cross referencing from groups like GDS the issue rapidly gained wider traction.

[270] See, *The Singapore Straits Times*, 3 July 2011, "URA invites pubic feedback on possible 'Rail Corridor'"(available at: http://www.straitstimes.com/BreakingNews/Singapore/Story/STIStory_686672.html. Last accessed 3 July 2011).

[271] Singapore political observers suggest that issues endorsed or receiving extensive coverage in, *The Singapore Straits Times,* typically suggests high level government approval or support, given that this major local newspaper is regarded as a governmental mouthpiece (and a part of Singapore Press Holdings Group) (Lee 2010b: 66).

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state was 'won over' by the proactive NSS proposal and active civic-cyber associational discourse.

At least five elements can be seen as contributing to the success of the Green Corridor campaign: the formation of a broad-based civic-cyber coalition (including GDS); the promotion of a proactive vision for land use and conservation; the emergence of the issue in the post- election climate of 'consultative' government; the linkages (or compromising language) included in the vision and ideas pushed by civic environmental groups (such as the Singapore Government's interest in urban livability and sustainability); and finally the growing role of new media and ICT tools/platforms in shaping civic environmental discourse. Indicative of this shift from a loosely affiliated quasi virtual formation, the GDS founder noted that in 2011 the Green Corridor campaigners were considering formalizing their civic-cyber coalition and registering as a non-profit Society (Interview 7/11/2011). Although GDS and its founder emphasized playing supporting roles (indirect) in the Green Corridor episode, arguably their contribution helped to shape the collaborative civic actor-network formation that appears to have advanced alternative urban sustainability ideals and ideas in Singapore.

While ICT-linked public sphere activities (such as forums; the environmental e-discussion group; social media and microblogging) and cyberactivism (such as e-petitions or smart mobs, public mobilizations and the uses of forum, e-mail, social media or microblogs for mobilizations), have been variously employed by environmentalists in Asia (e.g. Lai 2004a,b; Lam & Ip 2011; Zheng 2011) the GDS founder felt that cyberactivism was not common in Singapore (Interview 7/11/2011). The founder did however, cite the example of an online campaign (supported by GDS with a supporting link and news updates on its blog/website) organized by the local environmental group ACRES, whose work on animal rights in conjunction with the international cyberactivist group AVAAZ involved an online global petition.[272] Notably GDS did attach importance to the uses of ICT as tools for 'civic activism and mobilization', as well as for 'creating new spaced for public participation' in a survey conducted for this investigation (Table 6.4), however comparable uses were also evaluated of high or moderate importance to the association—perhaps illustrative of the importance GDS sees in the overall civic uses of ICTs.

6.2.3 GDS's spatial practices

The info-sociational model suggests that ICT-linked spatial transformations involves shifts in the scope of geographic reach of civic associations—'g/local spatial transformations'—as well as potentially reinforcing or creating novel civic alliances involving associations ('associational alliance formations'). Employing ICTs with a focus on local urban land use and environmental change—such as the Green Corridor alliance previously demonstrated—also demonstrates forms of spatial practices. The two examples outlined below further illustrate the intertwining nature of the physical and the virtual in GDS's spatial practices. The first example relates to

[272] The ACRES-AVAAZ co-operative digital campaign arrangement involved launching a joint digital g/local petition and called for boycotts in relation to the ongoing issue of capture and confinement of dolphins for amusement purposes in the Resorts World Sentosa aquarium at its integrated resort on Sentosa Island (Singapore) (See: https://secure.avaaz.org/en/saddest_dolphins/. Last accessed 14 April 2012).

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GDS's regional and global linkages (as 'communities of practice'); whilst the second example discusses Green Drinks Singapore's role in civic environmental actor-network alliances formation.

6.2.3.1 Green Drinks linkages: the shifting spaces and alliances of associational life

The global-local (g/local) linkages embedded in the Green Drinks Singapore 'model'—enhanced or augmented with ICT practices—arguably facilitates an awareness of ideals and ideas

Table 6.4: **Degree of importance attached to the overall uses of ICTs in GDS's organizational-participatory-spatial practices**

ICT-linked area of use	high	moderate	low	none	n / a
strengthening internal activities	■	___	___	___	___
strengthening external activities	■	___	___	___	___
creating new spaces for public participation	■	___	___	___	___
providing tools for civic activism & mobilization	■	___	___	___	___
enabling greater geographic reach	___	■	___	___	___
increasing potential alliances	■	___	___	___	___

Source: Question #17, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia' (Hong Kong, Singapore, Taipei). The question was phrased as follows: "In your opinion how important are the overall uses of ICTs to your association in the following areas: [areas noted above in far left column] High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable." (Sadoway 2011).

circulating within both local and global Green Drinks 'communities of practice'. For example, this globally and locally internetworked web of relations involves the GDS organizer (and by extension GDS attendees) in exposure and engagement with (and the formation of) knowledge and issues networks rich in ideas and environmental discourses. This circulatory actor-network—face-to-face and virtual—may be understood as both political and participatory because it enrolls (and stabilizes) actors into issues/knowledge networks for dialogue, discussion (and debate) about environmental ideals and ideas which inevitably touch upon questions of knowledge, power and space—regardless of aversion to 'political talk'. In some ways this politically catalyzing process is not dissimilar from other networked, hub/spoke or branched organizational models used in internationally oriented environmental groups with a local presence.[273] However, ICT uses in g/local network can shape new types of communities of

[273] For example one could refer to physical and virtual issues and knowledge networks linking interested publics and members to international environmental groups which have relatively recently (2007-10) established organizational branches or representatives in Singapore such as WWF, Conservation International, The Jane Goodall Foundation and the Sea Shepherd Society.

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shared interest—ranging from professional to activist—and with multiscalar capabilities (Gurstein 2001: 272; Horton 2004: 736; Sassen 2004: 655).

As was mentioned earlier in this account, GDS is part of the global network of Green Drinks groups or what was referred to as a 'global movement' by the Singapore founder (Interview 11/16/2010). The founder also noted the mutual networking and ideas exchanges with Green Drinks Kuala Lumpur—through exchange visits their sessions and hosting their group leader in Singapore sessions (Ibid.).[274] The founder of Green Drinks Kuala Lumpur (Steven McCoy) has provided GDS with support and suggestions on operational matters. "We try to Skype chat every week," the GDS Founder noted (Interview 7/11/2011). Such physical and virtual cross-pollination of ideas, issues and ideals amongst GDS and other groups are illustrative of global-local links for collaboration on mutual exchange. Such identity-shaping of actor-networks are constituted by what Keck (2004: 46) refers to as 'situated individuals' (like the Green Drinks Singapore and Kuala Lumpur founders): "whose networks of individual and institutional linkages categorize them in others' eyes, and are constitutive of their self-understandings, jointly with their ideas and their interests" (Ibid.)

Besides physical interchanges in the region, GDS connects to the Green Drinks global website (in London) which posts an aggregation of basic group overviews (and/or hyperlinks) to the 803 Green Drinks groups worldwide.[275] In one respect this globally-oriented website (established in 2000) reinforces the notion of Green Drinks as a decentralized international networked or 'communities of practice' with shared ideals in the environment because it directs people to the Green Drinks groups, rather than 'taking ownership' or control over their distinct locally-situated practices—despite the basic frame of group norms (i.e. the 'Green Drinks Code'). Each Green Drinks group can be understood as contributing to the collective creation of what Schuler (2002) refers to as 'civic intelligence', or what arguably could also be termed: 'civic environmental intelligence'—that is local innovations, ideas and initiatives in support of civic environmentalism (and potentially including ICT-linked initiatives).[276] Despite some interest in other ICT mediation for the global site, the International Coordinator suggested that the emphasis with Green Drinks remains on in-person interactions. For example, he suggests:

> *"I've upgraded the website a few times in recent years, and we are flirting with on-line social networking via Facebook, Ning, Twitter, etc. but there are countless*

[274] In addition, the GDS Founder has also visited one of two Green Drinks groups in Manila and has expressed the hope to reconnect with them on organizing a 'bamboo bike workshop'; along with the intention to visit other Green Drinks in the Asian region. Notably, besides Green Drinks Singapore and Green Drinks Hong Kong, recently formed groups in Hsinchu, Taiwan; and Shenzhen in Guangdong, P.R.C. are in close proximity to this investigation's tiger city settings.

[275] See: http://www.greendrinks.org/. Last accessed 14 April 2012.

[276] The International Coordinator for Green Drinks (Edwin Datschefski) explains the connection between the 'Green Drinks Code' and its organizational design: "I specifically used biological thinking in the design of Green Drinks. I wrote the Green Drinks Code (http://www.greendrinks.org/Start) as a code of practice but also as a genetic code, the DNA of the organism. Green Drinks is biological in that it is: Distributed—there is no central organization, each city organizer can do what they like and maintains their own list of members. Viral—member-get-member is the basic principle—as simple concept spread by word of mouth. Adaptive—each Green Drinks city has its own logo and traits, the ones that work best for its location […] The freeform nature of most of the mingling is the key, and this can be enhanced by good hosting and introduction-making on the night" (http://www.greendrinks.org/Press. Last accessed 14 April 2012).

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online environmental networks, and Green Drinks is fundamentally about face to face interaction in a room" (http://www.greendrinks.org/Press, accessed 14 April 2012).

The nature of GDS as an affiliated association embedded within a dynamic global actor-network suggests the importance of maintaining affiliations beyond the local—along the lines of Sassen's (2004) g/local scale shifting—although this appears to involve no more than employing basic (yet potentially powerful) ICT tools such as email services and websites. Beyond this dynamic, however, the distributed, decentralized nature of the global Green Drinks network allows for experimentation shaped by local interests and bounded by time and resource constraints. As the efforts of Green Drinks Singapore suggest, this experimentation has gone beyond the use of basic ICT tools to involve experimentation with various social media platforms, blogging news, live microblogging, RSS feeds as wells as highlighting weblinks and personal links with civic-cyber environmental alliances in Singapore. These alliance formations will be discussed next.

6.2.3.2 'Meet-ups' and multiplexed green alliances

An example, of associational alliance formations involves GDS's as a member of the 'Singapore Green Roundtable'—an informal local gathering of civic environmental groups. Initial meetings of the Roundtable apparently started in the Summer of 2010 organized by the then Managing Director of Conservation International's (CI's) Singapore office and involving approximately 20 different green groups (also see discussion in the NSS case below). Here again, although these 'meet-ups' were physical they were organized via email through the initiative of CI (Interview 11/16/2010).

Originally the Green Roundtable was monthly 'meet-ups,' but since the CI organizer has stepped-down, the initiative appears to have been scaled-back to quarterly gatherings, the GDS Founder reported (Interview 7/11/2011). The fact that the Green Roundtable gatherings of civic environmental groups was only initiated in recent years, suggests the importance of catalytic (and perhaps diplomatic) initiative identified both in Keck (2004) as 'situated individuals' and in actor-network theory as 'obligatory passage points.' That is the convenor of the Green Roundtable helped to establish a common issue alliance or 'issue network' (in this environmental issues) thereby triggering a civic actor-networking process, which has apparently continued in lieu of his absence. The GDS founder noted that during the Green Roundtable sessions individual organizations would provide reports and also provide suggestions for resource-sharing. [277]

[277] Besides the Green Corridor and other alliances; and the Green Roundtable 'meet ups,' GDS itself has notably (net)worked with a diverse array of environmental groups (from longstanding Singapore green groups like NSS, SEC, ECO, SAVE or WILD Singapore; to newer groups such as the Vegetarian Society or Ground-Up Initiative) as well as members of the Singapore green blogging community, student environmental groups, eco-consultants (green building, green jobs, etcetera); along with government agencies (NEA, NPARKs, etcetera) and individuals in the IT, finance and education fields with environmental interests (Interviews 11/16/2010 and 7/11/2011).

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In the GDS case one of the benefits of such alliances has been to provide it with an early familiarization 'mapping' of the civic associational landscape—both in terms of understanding the various missions, activities/projects and resources of civic environmental groups—in Singapore (Interviews 11/16/2010 and 7/11/2011). ICTs have played a role in the multiplexed alliance efforts, not only with the Green Routable, but also with the Green Corridor campaign. This includes basic email use—appearing as seemingly rudimentary or mundane form of communications—which, however, as Horton's (2004: 747-748) suggests actually involves complex functions in environmental organization's communications. Viewing GDS-related email missives through Horton's taxonomy (Ibid.) suggests consideration of 'informational email' (e.g. Green Roundtable notices sent from CI); 'reinforcement email' (e.g. follow-up emails for building or maintaining network connections often after events or meetings); and 'outreach email' (e.g. action-oriented emails to government for lobbying or protest, as in Green Corridor case) such as cyberactivist one-person-one-letter ICT-linked campaigns.

In addition to the importance of joining email discussion lists with GDS email is also (re)mediated simultaneously transmitted to multiple platforms. This can include GDS-related website/blog announcements or advanced event notices on social media, or key links in RSS feeds and microblogs. And it can also feature GDS microblogging or cross-references in discussion forums (like the Singapore environmental e-discussion group) both which may feature embedded (and cross-platform) hyperlinks for referencing physical events or activities (Interview 11/16/2010). Email and its broader echo effect in social media and other ICT tools, therefore illustrates the potential 'viral power' of affective media, but also the accompanying problem of digitally generated 'hype,' that Dean (2010) insightfully suggests may potentially undermine grounded forms of activism in the long-term. An example of cross-referencing—or more accurately 'cross-promotion' of GDS and an ICT hardware tool—featured the GDS founder in an endorsement video discussing how she employed a particular sponsor's personal data assistant device: "in the day-to-day running of Green Drinks" (https://sggreendrinks.wordpress.com/media/. Last accessed 18 March 2012). While such an approach arguably benefits both parties—with GDS garnering cross-promotion of its activities on multiple platforms and the sponsor gaining an endorsement for its product—the longer term implications may be of concern regarding commercial control of steering of key messages or direction. In some respects this concern is partially along the lines of Tatarchevskiy's (2010) critiques about ICTs potentially commercial interests undermining or imposing upon grassroots associationalism.

GDS's own regular monthly events, as well as the regular Green Roundtable 'meet-ups' serve the function in building networked face-to-face and intergroup alliances and partnerships.[278] ICT's role in these local alliances appears largely for coordinating purposes—such as Horton's (2004) 'informational email' for sustaining weak networks—with email potentially shifting in importance as the group / alliance forms an actor-network that features the uses of

[278] Indeed, examples from the research literature in areas as diverse as green economic development; organized labour-environmentalist (blue-green) coalitions; and community participation in environmental issues (e.g. water conservation initiatives)–have been noted in the work of Green Drinks groups in other areas of the globe suggesting that these forms of networked alliance-building are not isolated phenomenon (Mitchell 2009: 24; Horwitch & Mulloth 2010: 27-29; Doron et al., 2011: 556).

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'reinforcement' emails. In addition, GDS's social mediated microblogging provides a basic illustration of how ICTs can powerfully project green 'issue networks' (Marres 2006; 2010), through embedded hyperlinks in digital chat (Figure 6.3). Here Marres' (2006; 2010) work on green issue networks suggests the importance of understanding emergent forms and functions of digital environmental networks and the role of groups such as GDS in these.[279] Perhaps a more important consideration is how ICTs are helping to facilitate or 'bridge' the formation of new project or resource-sharing alliances or partnerships based on shared ideals and ideas.[280]

Figure 6.3: **An example of a stream of microblog (Twitter) feeds for GDS (14 April 2012)** Source: https://twitter.com/greendrinkssg/. Last accessed 14 April 2012.

In contrast to the relative recent formation of Green Drinks Singapore and its emergence on the Singapore environmental scene, the Nature Society (Singapore) has had a lengthy history of urban conservation, education and activism—as the next section will explore further.

[279] For instance, Marres (2010) argues that digitally tracing issues networks and social network linkages between green groups can provide one empirical means of assessing such linkages (e.g. through web link analyses, or issues crawler digital network analyses).

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6.3 Nature Society of Singapore (NSS's) solidifying and allied network linking

> *"From its simple beginnings as a recreation and research group, NSS has transmuted into a voice for conservation—'from hobby to lobby group' as Singaporean political commentator Cherian George has put it—whether behind the scenes or, at times, through public campaigning."*
> –Illsa Sharp, 'Nature Society (Singapore): A child of our own' (*Building Social Space in Singapore* 2002: 57).

The introductory quote to this section by Sharp (2002) is extracted from a piece which situates the NSS's practices—from her perspective as an NSS member and journalist—within the context of broader civil society transformations in Singapore. Indeed, the group has long had historical roots as a civic mainstay of nature appreciation and conservation (Mekani and Stengel 1995: 289-291; Francesch-Huidobro 2008: 197-205)—starting-out initially in Singapore as a largely expatriate group and 'branch of the Malayan Nature Society in 1954' (Mekani and Stengel 1995: 289-90). The overview of the Nature Society (Singapore) (NSS) on its recently overhauled website describes NSS as a:

> *"Non-government, non-profit organization dedicated to the appreciation, conservation, study and enjoyment of the natural heritage in Singapore, Malaysia and the surrounding region."* (http://www.nss.org.sg/about.aspx?id=3. Last accessed 22 March, 2012).

Although established as an independently registered non-profit society in 1992—after 'separating by mutual consent' from the parent Malaysian group *the previous year*—NSS's work in Singapore, claims Sharp (2002: 53), can arguably be traced as far back as 1921 to the work of the 'Singapore Natural History Society.'[281] The point of this background, in relation to this investigation, is to help in understanding how NSS's accumulated organizational knowledge—treated here as a form of 'civic environmental intelligence' (adapted from Schuler's [2002] concept of 'civic intelligence')—fits into the context of the shifting civic environmental scene in Singapore. In the ICT-embracing context of contemporary Singapore (as Chapter Four described) where environmentalists are increasingly employing ICTs to mediate their multiple 'green' messages—how are NSS's longstanding conservation *ideals* (its mission and history) and *ideas* (its many activities and achievements) shaping and being shaped by ICT practices?[282]

As with the previous cases of civic environmentalism—this info-sociational narrative is largely based on 'text' and 'talk.' This features 'textual' artifacts such as: the NSS Website, Society

[281] Mekani and Stengel (1995: 289-90) note that the Singapore branch of the Malayan Nature Society, "was renamed Nature Society (Singapore) in October 1991 to avoid confusion about the independence of the group." They add, "while it used to be a mainly expatriate organization with around 200 members in the sixties, the NSS membership has grown significantly to the current 1,700 as locals developed a keen interest" (Ibid., 290).

[282] Notably 'ideals' are treated as being manifest in NSS's mission and history, whereas 'ideas' are arguably manifest in NSS's numerous activities and achievements.

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Annual Reports, NSS's publications (such as *Nature News* and *Nature Watch*), surveys, policy proposals and reports, and so forth. It also includes the 'talk' of NSS members and a staffer—including three interviews with NSS members (and, although not emphasized here, 'talk' can also include online discussions (or chat) in social media and online forums). Three separate interviews were held with NSS members/staff including: the first, an in-person interview with the NSS Conservation Committee Chair / Executive Committee Member (08/06/2009); the second, a joint (in-person) interview, with a spokesperson member-director (Executive Committee member) and an NSS staff member involved in with NSS's web migration (11/15/2010); and the third, a telephone interview with an NSS member-director (Executive Committee member) (7/08/2011).

As a civic environmental actor-network NSS can be understood as a socio-technical assemblage of artifacts: human and non-human; or non-digital and digital. For example, NSS's practices are associated with—Society members, staffers and supporters; linked civic actor-networks; abiotic and biotic ensembles (particularly the flora, (avi)fauna and marine life that interests NSS's members); as well as socio-cultural 'artifacts' which constitute Singapore's heritage. Actor-networks are both soft and hard (natural and abiotic/non-human) networks, therefore they include technologies—whether the Internet Service Providers (ISPs), the hardware, software, smart phones or sensors that NSS's members or staffers employ, or the myriad networks that support these ICTs (e.g. base stations, fibre optic cables, satellites, server farms, etcetera); as well as those networks which impact upon natural systems on Singapore Island (or beyond) such as road and former rail network, shipping lanes and airline flight paths, urban sites of development and underpinning infrastructural systems and so forth.[283] These examples—which constitute a potentially very lengthy list—demonstrate just some of the many possible configurations, ties and associations which can come into play when understanding NSS as a civic environmental actor-network. How does this complex constellation of practices play-out in relation to NSS's contemporary ICT uses? This question highlights the potential relevance of an info-sociational approach for examining a number of the cross-cutting organizational, participatory and spatial ICT-linked practices of NSS. Such an examination takes place in the three sections that follow.

6.3.1 NSS's Organizational Practices

This section examines both internal and external organizational aspects of NSS's ICT practices in three parts. First the outlook and achievements of NSS are outlined in order to better understand how and why this Singapore environmental actor-network employs a range of ICT practices. Building on this overview, secondly, the decentralized aspects of this member-driven Society are connected to its ICT activities—particularly the story of managing NSS's migration and consolidation into chiefly a single website. This will provide not only a window on changing ICT practices, but also on knowledge, power and (cyber)space in relation to NSS. Thirdly, the co-

[283] Such a seemingly infinite number of pathways are limited here to an info-sociational focus (at the civic associational level) on organizational, participatory and spatial practices which are linked or related to ICT practices.

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evolutionary relationship between NSS and the ICTs it employs relates not only to non-profit organizational efficiency but also to deeper questions that will be discussed here.

6.3.1.1 From hobby to lobby group: NSS as locally-focused actor-network

In some respects, NSS, as a primarily locally-focused actor-network has reflected the shifting modalities of governance in Singapore and South East Asia. This includes the NSS's apparent transformation from a "colonial, expatriate European Society" to a becoming a locally-rooted membership. This transformation—particularly after Singapore's independence in 1965—is suggested by Singapore communications scholar Cherian George's phrase from a "hobby group *to a lobby group"* (cited in Sharp 2002: 55). Sharp suggests that NSS's internal organizational practices and shifts are synonymous with the Singapore's developmental state's continued impacts the landscape and ecology (and a post-Colonial continuity), particularly in tandem with the take-off stages of this tiger-city economy.[284]

Besides attempting to abate or raise an awareness of the waves of historical spatial and environmental transformations of terrestrial and marine life in insular Singapore (e.g. Corlett 1992; Chou 2006)—NSS has operated within the constraints on civic space in Singapore for advocacy, let alone activism (see Chapter Four). Perhaps as a result, NSS's tactics (and 'issue networks' [Marres 2006]) have heavily emphasized a pragmatic science-based approach to conservation—compared for instance, to a bioregional, lifestyle transformation, environmental justice, deep ecology or employing more radical activist tactics—although 'citizen science' has recently been embraced by the NSS (notably identified in its 'Butterfly Trail at Orchard' project).[285] This deliberatively cautious approach to conservation is also evident in key points in NSS's mission, noted (as follows) on its website:

> *"To promote nature awareness and nature appreciation. To advocate conservation of the natural environment in Singapore. To forge participation and collaboration in local, regional and international efforts in preserving Earth's biodiversity."*
> (http://www.nss.org.sg/about.aspx?id=3. Last accessed 22 March, 2012).

Linked to its mission, the NSS website identifies four key related activities: organizing 'nature appreciation activities' (i.e. guided walks, wildlife watching, talks and international eco-trips); conducting 'conservation projects and surveys'; environmental education 'with schools and community groups'; as well as campaigning 'for the protection of natural habitats' (Ibid.). This

[284] For example Sharp identifies some of the ongoing history of environmental destruction on the island: "[A]fter Singapore's gaining full independence in 1965, rapid economic development was drastically remodeling the island's natural environment, relentlessly urbanizing the old rural landscapes comprising secondary vegetation and *kampung* scenery. Population growth and housing needs accentuated these pressures on the land. While in truth, much of the damage had already been done to Singapore's original forests within fifty years of the arrival of British colonist Sir Stamford Raffles in 1819, himself among Singapore's earliest naturalists, the sense of loss among Singaporeans this time round was much more keenly felt" (Sharp 2002: 55-56).

[285] This partnership initiative was reported on the NSS website ('News') as a project involving 'urban biodiversity' as well as 'citizen science. ' Source: http://www.nss.org.sg. Last accessed 17 Jan 2011.

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will later be related to how ICTs are reconfiguring some of these NSS's public sphere activities (in the discussion on ICT-linked participatory practices).

NSS has been recognized as a, "proactive player in the ongoing debate about how Singapore should manage its limited land, for what and for whom" (Sharp 2002: 56-57).[286] Thus NSS has not only represented a key voice for conservation, biodiversity protection (as well as for sustainable spatial development); arguably for many years it represented *the* key voice, given that it was acknowledged as, "the only true environmental NGO in Singapore," and had arguably retained a, "critical distance from the establishment," Mekani and Stengel (1995: 289) posit.[287]

Table 6.5: **Key NSS campaigns and project proposals or reports**

NSS campaign / issue	NSS Proposal / Report
The Green Corridor – To Keep the Railway Lands as a Continuous Green Corridor	2011 / Proposal
The Horsehoe Crab Research and Tracking Survey in the Strait of Johor	2011 / Study Report
Eco Link Survey in enhancing Birds and Vertebrates crossing between Bukit Timah and Central Catchment Reserve	2011 / Study Report
Flora, Fauna and Intertidal Biodiversity Survey on Sentosa Island	2010 / Study Report
Feedback on the Singapore Green Plan	2002 / Campaign
Nature Conservation area at Sungei Buloh	1998 / Proposal
Vertebrate Survey at Pulau Ubin	1996 / Report
Fauna Study at Sentosa	1995 / Proposal
Conservation for South Simpang	1993 / Proposal
Conservation for Pulau Ubin	1992 / Proposal
Master Plan for the Conservation of Nature in Singapore	1990 / Plan*
Conservation for Kranji Heronry and Marshes	1990 / Proposal

Source: Sourced from information on the NSS website, http://www.nss.org.sg/about.aspx?id=2. Last accessed 22 March 2012. [note: * this was an NSS-proposed plan].

Examples of some of NSS's campaigns for which it has formulated various responses or research, as shown in Table 6.5, further highlight how as an 'issue network' its interests relate to spatial and environmental questions and its responses shape its perception as a technically competent, rationale-comprehensive organization—capable of developing (counter)proposals, reports, plans and study projects. In part, NSS's science-influenced[288] and cautiously critical

[286] Other civic associations addressing spatial and built conservation issues have included the Singapore Planning and Urban Research Group (SPUR), Chaired by Architect and Planner William S.W. Lim and the Singapore Heritage Society (SHS) whose Chair was interviewed for this investigation (Interview 9/18/2009).

[287] Mekani and Stengel (1995: 296), however, suggest that "even the one group that is widely acknowledged as a true NGO, the NSS, does not seem to have the bite that characterizes its Western counterparts." Their work goes on to cite a directory developed by the National Council on the Environment [currently SEC] (1994) which identifies 17 voluntary groups formed in the 1990s (except for the SPCA) which have an interest in environmental preservation or issues: 10 being college or university-based; 2 corporate-based; 2 focused on animals; 1 religious linked; 1 journalist / communications linked (Ibid., 294-295). While the NCE's successor the SEC continued to publish this directory, a more recent directory, Singapore Green Landscape 2010 (Green Future Solutions 2010), demonstrates the changes in the Singapore environmental landscape in the 16 years since the NCE publication. The 2010 directory lists: 23 green NGOs (including NSS); 17 Green Groups (including GDS); 11 Business Associations and Groups; 16 Green Websites; 25 Institutes and Centres; and 18 Government Agencies (Ibid 4-5).

[288] For example, with reference to NSS's biodiversity-related 'Survey Activities,' its website details some of the scientific work that the Society has arguably built its reputation on: "Biodiversity surveys are conducted by members of the Nature Society (Singapore) with considerable experience in their respective areas of specialization. Birds, Butterflies, Intertidal, Marine, Plants and Vertebrates survey methods followed procedures that are typically employed and tailored to the respective organisms studied, to ensure that the findings give a representative view

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approach has historically been shaped by the key role of Society members and volunteer actors whose leadership backgrounds draws-upon specialist scientific and medical expertise; as well upon business and governmental connections.[289] NSS has been able to tap into these varied and complex personal knowledge networks from amongst its diverse member-volunteer base, particularly when spatial and environmental issues have required advocacy or politicizing. These leadership and membership actor-networks have also helped to reify NSS's reputation as being an organization with a 'specialist membership' (Hobson 2005: 163); viewed by government and the public as: "highly regarded and accepted as an expert in nature conservation issues," including for their, "factual expertise," suggests Mekani and Stengel (1995: 298, 301). This has been coupled with the creation of an NSS Honourary Patron or an 'ambassador-at-large' position for Professor Tommy Koh—who has played a key role as trusted broker (in a sense an 'obligatory passage point' [Bach & Stark 2005: 39] regarding certain key issues) between the government and NSS in contentious land use and conservation issues (Francesh-Huidobro 2006: 283-284). This intermediary role has apparently also: "helped to open doors and enhance the standing of the organization [NSS]," claim Mekani and Stengel (1995: 290).[290]

Mekani and Stengel (1995: 290) also suggest that, "The Nature Society's style is undoubtedly a non-confrontational one," with, "a lot of lobbying [being] done behind closed doors and when publicity is sought, it is ensured that the Government is informed ahead of time" (Ibid.). This involves NSS reports being addressed to the government for their consideration "before they are made public" (Ibid., 291). Despite this seemingly 'insider' approach, they suggest that NSS has been outspoken, yet pragmatically so: "The NSS does not hold back its view but realizes when confrontation does not lead anywhere. It does not appear to hang on to 'lost fights' " (Ibid., 291).

NSS's research and recommendations has over the years indeed helped to shape government policies as well as achieve successful conservation initiatives on several fronts. Some of these alternative plans and conservation 'victories' in which NSS has played an active part—either as key proponent in lobbying or campaigning[291]—have included:

- Lobbying for Singapore's accession to the International Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1986);
- Gaining a degree of protection for a portion of Kranji mangrove/marshes—

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of the current species diversity, including our recommendations on habitat management, species propagation to maintain the integrity and sustainability of nature areas" (NSS Website: 2012, http://www.nss.org.sg/activities.aspx?id=%202. Last accessed 22 March 2012).

[289] For example, past NSS Presidents' professions included: a zoologist, a mycologist, a botanist, a gynecologist, a plastic surgeon and an eye surgeon (Sharp 2002: 56; Francesch-Huidobro 2008: 205). NSS volunteers retain g/local scientific and political training or connections such as local landscape ecologist and environmental philosopher, Dr. Ho Hua Chew (ex-NSS Conservation Committee Chair for 16 years); biologist Chris Hails (ex. NParks / National Botanical Gardens and later with WWF's international headquarters) and a contributor to NSS's Sungei Buloh proposal and Conservation Master Plan; along with ex-CEO of HSBC, Richard Hale (a member of the NSS Bird Group) (Francesh-Huidobro 2008: 205).

[290] Professor Tommy Koh is Head of the Institute of Policy Studies (National University of Singapore).

[291] The bullet points on 'alternative plans and conservation victories' are derived from: Sharp 2002: 58-59; Hobson 2005: 169; Francesch-Huidobro 2006; 2008: 210-213; Interview with NSS member 6/8/2009; NSS Website: 2012 (http://www.nss.org.sg/about.aspx?id=2. Last accessed 22 March 2012); NParks, undated [Sungei Buloh pamphlet].

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despite the destruction of 80% of marshland in the development a golf course (1985-1990);
- Garnering parks protection for wetland/bird habitat at risk of development—and the subsequent designation of Sungei Buloh as a Wetland Reserve (est. Jan.2002) (campaigning 1986-1989);
- Spurning the creation of a National Council on the Environment—the predecessor of the current NGO, 'Singapore Environmental Council' (in 1990);
- Advocating the NSS *Master Plan for the Conservation of Nature in Singapore* (1990) which helped to secure commitments in the *Singapore Green Plan 1993*; including key designations for Island-wide nature conservation (with five per cent allocated by government) (campaigning in 1990-1992);
- Brokering the preservation of the Lower Peirce Reservoir forest and avoiding a golf course development (campaigning in 1990-92);
- Achieving conservation commitments for the protection of Palau Ubin and the marine habitat on this island at Chek Jawa (campaigning 1992-2001);
- Advancing the Green Corridor (proposal) and (apparent) government commitment to protections of the corridor (2010-11).

Besides its membership's scientific and local environmental knowledge—derived in part from volunteer-driven research sub-groups or working committees focusing on: birds, bird ecology, butterflies, marine conservation, plants, vertebrates and guided nature walks—NSS has been involved in broader environmental public awareness raising and policy advocacy through the respective efforts of its Education Group and Conservation Committee (NSS 2010a: 19). For example, in March 2009, NSS provided a feedback submission to the Inter-ministerial Committee Project on a 'Sustainable Singapore' which specifically related to the interface of Singapore's built and natural environment (Interview with NSS member-director 6/8/2009).[292]

The priorities reflected in NSS's activities as listed above (as well as in its mission noted earlier) were also echoed in a recent survey conducted for this investigation (in 2011). Amongst other questions, the survey asked civic environmental associations their priority practices. Notably NSS identified conservation, education and government partnerships as being amongst the key practices in their current work (Table 6.6). The primarily (although, not exclusively) *local focus* of NSS has in recent decades increasingly involved the complementary uses of ICTs. These ICT practices are arguably reconfiguring (and shaped by) NSS as a civic environmental actor-network. The next section examines the story of NSS's 'migrating website,' in conjunction with Bach and Stark's (2005) and Marres' (2006) theoretical work and actor- and issue-networks.

[292] This NSS Conservation Committee submission touched-on issues of land reclamation, reservoir expansion, canalization/channelization of watershed, road and expressway development and forest fragmentation (including in Nature Reserves), as well as a set of specific proposals for green areas and marine areas outside of existing designated Nature Reserves (NSS Conservation Committee: 2009). Besides biodiversity and habitat protection part of the rationale for these designations highlighted NSS's, "recreational, aesthetic, cultural, educational," values as well as their importance as "carbon sinks and carbon credits" (Ibid., 16).

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Table 6.6: **Degree of importance attached to various practices in NSS's current work**

Practices	high	moderate	low	none	n / a
watchdog practices	___	▮	___	___	___
natural / built conservation	▮	___	___	___	___
information & education	▮	___	___	___	___
scientific research	___	▮	___	___	___
policy lobbying	___	▮	___	___	___
grassroots organizing	___	▮	___	___	___
civil society alliance-building	___	▮	___	___	___
government partnerships	▮	___	___	___	___
green / social enterprise	___	___	▮	___	___
business partnerships	___	▮	___	___	___

Source: Question #2, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia'. The question was phrased as follows: "How important are each of these practices in your association's current work and activities? High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

6.3.1.2 The story of NSS's 'migrating website'

The story of the changing circumstances of NSS's main website—which at one time included seven previously-related websites for each of NSS's 'sub-groups or activity groups' along with a separate Society-wide website—provides a helpful example of understanding how the Society (as a civic actor-network) has shaped and has been shaping ICT tools and platforms (interview 11/15/2010). This story will interconnect Bach & Stark's (2005) ANT-derived concepts ('obligatory passage points') and Marres' (2006) issue-network concept ('jointly implicated issues').

One element in this co-evolutionary story is about the importance of ICT-linked voluntary efforts on the part of NSS's voluntary members—particularly those actors who are either skilled in ICT/IT uses or work in this industry. This story also includes the four full time staffers, some of whom were also involved in the web migration process (interview 11/15/2010). Another element of this story involves the interplay between pressures to centralize versus to decentralize—that is, the tensions between the need for a core organizational (symbolic) identity and forms of coordination and efficiencies; versus tendencies for people to remain small group focused and committed to projects and activities in specialized knowledge areas of interests in seven decentred sub-groups (as well as NSS conservation and educational committees) within the co-evolving NSS actor-network. This is illustrative of the tensions between centralization and decentralization that Bach & Stark (2005: 49) highlight in non-profits, including a shift from decentralized structures to 'distributed structures' related to networks (Ibid., 45).

Yet another aspect of the NSS website migration story involves the challenges faced in designing a website architecture that acknowledges NSS's associational norms, such as its claimed respect for member-driven, decentralized and democratic decision-making (interview

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11/15/2010). The role of a number of NSS committees and subgroups has been briefly noted above. On first observation the existence of committees and subgroups might not seem unusual for a non-profit environmental organization. However, these subgroup's activities provide a key window into understanding how NSS operates as a decentralized member-driven organization—as compared with more executive-led or staff-led non-profits, for example. These subgroups are also variously referred as NSS's 'special interest' or 'activity groups' and they include: Bird Ecology Study Group, Bird Group, Butterfly Interest Group, Marine Conservation Group, Plant Group, The Nature Ramblers (hikers), and Vertebrate Study Group. In addition, NSS has an active Conservation Committee (e.g. Rail Corridor Proposal) and an Education Group (NSS 2010a: 19). Each of these groups also represents a distinct issue constituency or 'issue network.' As Marres (2006: 8) suggests, "to say 'issue network' is then to ask: how do CSOs [civil society organizations] insert themselves, or how are they implicated by others, in formations of opponents and allies (as well as actors between these two extremes) that have configured around a common issue?" This suggestion can also be applied in internally examining NSS and its subgroups in the 'migrating website story.'[293]

One of the volunteer-directors (at the time of the interviews a member of NSS's Executive Committee) and a staffer were interviewed jointly (the member-director served as spokesperson). They emphasized: "[W]e are a membership organization. We are run by an executive. We started-off as a registered society membership organization run essentially by elected officials" (Interview with NSS member-director 11/15/2010). The 'elected officials' noted here does not refer to Singapore parliamentarians, but rather to individual NSS member-volunteers nominated for election to the Board of Directors for positions from amongst the NSS membership, such as : President, Vice-President, Honorary Treasurer and so forth.

In this respect NSS can be contrasted to several other key Singapore environmental groups which are either managed by executive directors or dynamic individuals.[294] In this respect NSS provides an interesting example of a non-profit which emphasizes deliberations amongst a highly active membership particularly its subgroups and committees (each with their own Chairs). Besides its staffers,[295] much of the work of NSS is therefore identifiable in the capillary actions and ties amongst its member-actor-network working in subgroups and committees being nested within a broader volunteer organization (and steered by a voluntary group of directors). The member-director once again elaborated on how these organizational arrangements have shaped NSS's contemporary ICT practices:

[293] Understanding the ICT practices and issue networks at NSS inevitably relates to needing to understand the role of its voluntary 'subgroups' or 'activity groups.' These groups can be considered the backbone of the Society, because their work supports research, recreational and educational activities. Such efforts have provided a base of voluntary scientific and novice field knowledge about terrestrial and aquatic life and habitats in Singapore—and in turn have supported the Society's conservation and biodiversity initiatives, projects and campaigns, as well contributing to its extensive publications (and available both online and off).

[294] The member-director provided a number of examples: "You've got a whole of lot of people who run 'one-person shows'—Louise Ng for ACRES, right. I mean, you know, he sets it up and he runs it. Even Wilson Eng, you know, I see very much as a one man, you know what I mean, originally as a one man thing […] and things like [SEC] Howard Shaw, that have a very clear CEO in charge. A full time CEO who you know, OK, 'I know everything that is going on.' And who also is perhaps the type of personality who has a type of overview of everything that is going on. But we [NSS] are a very, an extremely, democratic organization. Sort of spread very wide" (Interview 07/08/2011).

[295] Notably, the NSS has a relatively small complement of full-time staff, which at the time of the first interview was 4 full-time staffers, however, has been as low as a single staffer only in recent years (Interview 11/15/2010).

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> *"We have a very really small secretariat. So the decision about ICT, and what happened about ICT really had to do with which people knew about ICT, various aspects of it [and] have development expertise in their own right and wanted to bring that into the society because they saw it as useful. And what developed was a kind of patchwork of people doing things"* (Interview 11/15/2010).

Here the central role that volunteer members play in NSS becomes clearer—particularly those with ICT expertise—and how they have employed their own personal skills or training (with ICTs) to help in establishing practical digital applications for use in NSS's projects and activities. And when asked to elaborate on this idea of a 'patchwork of people' involved in the Society's ICT efforts, the member-director suggested:

> *"It was both individuals within the society and individuals within the special interest groups. Acting for the special interest groups or for the Society depending upon what their position was. Like the first Society website was set up by a member of the Bird Group – who set up an overall website for the Society because he knew how to do it and because he had the time to do it […] sometime in the late 1990s. He simultaneously set up the first group website. And he initiated an e-group for the Bird Group, because he knew how to do all those things. Set up the first Society website because he knew how to do it. Set up a Yahoo [e-discussion] group"* (Interview 11/15/2010).

Therefore because NSS's highly influential Bird Group happened to have a member proficient in website design that while establishing a site and e-group for that group, also developed an overall society website and an e-discussion group on a commercial service (Yahoo groups).[296] In May 2006 a second NSS website—also developed and supported by an NSS volunteer webmaster—was introduced at the NSS Annual General Meeting (Interview 11/15/2010). Here the issue of the 'power of the webmaster,' akin to King's (2006: 51) notion of 'supernodes' as another 'obligatory passage point' (Bach & Stark 2005: 39) was manifest this time in the role of tech savvy volunteers. The role of such individuals in a volunteer member-driven organization like NSS, is crucial to understanding how ICTs can reconfigure internal organizational affairs in civic actor-networks. And it did become crucial when internal political issues eventually resulted in the departure of the Society volunteer responsible for the first website and a push by some members for a second website in the mid-2000s, and which was launched in 2006.

Another notably internal political issue tied to ICTs occurred in the mid 2000's amongst competing bird bloggers at NSS who established blogs and online e-groups including with members from outside of the Society. According to the member-director, tensions arose at the time when various factions became embroiled in disputes had entered the digital public domair (Interview 11/15/2010). At issue, was the speed at which borderline defamation or slanderous comments can enter the public (cyber)sphere. The concern was likely heightened, particularly

[296] A discussion about the important role the Bird Group and its members have played in the overall history of shaping NSS is discussed at length in Francesch-Huidobro (2008: 205).

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in the 1990s Singapore climate of political sensitivities about various types of discourses in emergent Internet civic-cyberspace (see for example: George 2006; Lai 2004a: 42-43; Lord 2006: 101-112; Lee 2010b).[297]

The choice to initiate a second NSS website in 2006 also demonstrate that in a small, voluntary civic association when people have energy and time, then ICT initiatives can occur. At the beginning of the migration to a single NSS website—and at the same time as an interview in NSS's Singapore office in late 2010 (11/15/2010)—the member-director discussed the matter of decentralization versus centralization in relation to the subgroup websites further:

> *"[T]hey have their own websites, they have blogs and each of them maintains their own website with their own webmaster, with their own system. At the moment [late 2010] you link from ours [Society-wide site]. You take a link and then you go right outside our system, as it were, into their system with a separate webmaster"* (Interview 11/15/2010).

Special interest or sub-groups, were for instance, asked to give up their individual sites and logos during the consolidation and migration process to a new overall Nature Society site. Part of the rationale was in order to have 'overall control' and 'overall consistency,' including having, "a clear Nature Society brand," (defined actor-network) rather than separate websites, or separate logos for the subgroups, different ISPs and their own webmasters (Interview 11/15/2010). Additional benefits of the migration to a single NSS website—besides the cost savings of a single ISP / webmaster focal point—was to make fundraising more transparent (with a single organizational window and brand, as well as single donation facility), given that NSS (as the umbrella society) has Singapore Charitable status and a donation number. Here the member-director commented:

> *"Funding is the excuse in order to bring some people under control – funding is the ostensible reason; funding is the sufficient reason; very powerful reason. Funding and branding have been the sufficient reasons and they are genuine reasons to do it"* (Interview 11/15/2010).

The migration to the new website—in the planning stages during the second interview in the Fall of 2010 (11/15/2010)—proceeded, and was largely complete by the time of the third interview during Summer 2011 with funding assistance from the Singapore government (07/08/2011).[298] (Interview 11/15/2010; Interview 07/08/2011). Besides emphasizing that their own view represented a single, personal perspective on the workings of the NSS,[299] the

[297] Although this issue at NSS appeared to relate more to attacks between and amongst passionate bird bloggers (i.e. personal or small group politics) and their competing blogs, rather than what might have been considered politically 'out of bounds' by the Singapore Government of the day in the 1990s.

[298] Besides the volunteer planning and support of members (and intensive work by NSS staff), the project was incentivized by a grant covering 70% of the costs, from the Singapore Government's 'Charities Commission' (operating under the Ministry of Communities, Youth and Sports). The funding covered the costs of upgrading the website (Interviews 11/15/2010 and 7/08/2011).

[299] The member-volunteer added that, "the reality of NSS there is not a definitive view," emphasizing the diversity of perspectives about any given aspect of in a decentralized, member-oriented organization (Interview 11/15/2010).

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member-director commented on the overall development of ICTs, including the latest web migration and consolidation process:

> *"You know it's how it happens you have one very enthusiastic volunteer doing one thing […] that person has got that area that another enthusiastic volunteer can't get into, so if they can't get into it they go do it somewhere else. It's just how it happens. But hopefully we are able to, as it were, now try to kind of have a framework for different people's enthusiasms of the members all from within. But I mean that's historically what's happened. We've had a number of people [with] ICT knowledge. You know, very enthusiastic about it. It wasn't easy to find a framework that incorporate them all, particularly when the people in charge of the framework knew less about ICTs than all these other people actually. I mean that's how it's panned out. They were busy doing other things as well. I mean a lot of it happens, is very much depends on the contingencies of time and energy of people"* (Interview 11/15/2010).

Besides working with a single 'framework,' the latest website apparently has provided flexibility for each group to maintain their own 'issue network' agendas (including teams from the subgroups who have been given webmaster equivalency in privileges on the new NSS site); who can continue to develop the 'equivalency' of a separate website, however, such a sub-group remains housed under the single NSS platform, with a single 'brand.' The migrating website story illustrated how competing and cooperating 'issue networks' (NSS sub-groups) and 'obligatory passage points' (NSS internal 'supernodes' such as voluntary webmasters and also the Executive Committee) interacted to shape and reconfigure NSS's organizational dynamics in relation to ICTs.

6.3.1.3 ICTs enabling efficiency but not 'an alternative to reality'

The role of email—as with the other cases profiled in the investigation—remains crucial to the day-to-day operations of civic environmental actor-networks (Horton 2004). At NSS this includes the internal emails exchanged amongst the NSS Council and its Executive Committee; with Board members and staff; amongst staff; and with the individual subgroups and committees. Functions of NSS emails can be examined employing Horton's (2004: 740) triplex of distinctions between 'informational,' 'outreach' and 'reinforcement' types of emails amongst online environmental activists. For example, internal NSS email appears to exemplify what Horton (2004) refers to as 'reinforcement' emails amongst existing NSS actor-networks (i.e. groups with peer relationships or strong existing ties). Reinforcement emailing occurs within NSS's active subgroup and committee networks. For example, on commenting upon internal email groups, or what were referred to as "email loops" or "e-loops" employed by NSS, the member-director interviewed for this study suggested:

> *"Yes, I mean its [email is] terribly important, you've got a nine member ex-co [executive committee] who have to agree on decisions. […] So it's tremendously important when you've got a nine member exco running the organization all of whom are volunteers"* (Interview 11/15/2010).

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Email between the broader public and NSS would be similar to Horton's (2004: 740-741) 'outreach' or 'informational' categories—that is, either to strengthen ties with another network by networking with individual(s) interested in an NSS activity or action ('outreach' email); or simply adding people to a relevant mailing list; such as about upcoming walks, for example ('informational' email).

Because the nine member voluntary Executive Committee (ExCo or NSS's executing or key decision makers) and wider voluntary NSS Council (Chairs of Special Interest Groups, Committees and other co-opted members) meet monthly, email constitutes a key nexus for deciding and preparing everything from financial and media requests, to human resource management issues and NSS meeting preparations (Interview 11/15/2010). For a member-driven organization, the member-director suggested, "if we didn't email we couldn't do it. We'd be horrible slow" (Ibid.).

Email groups or 'e-loops' (Yahoo groups), are also operated by the sub-groups which are "important to them for different functions," likely because their focus is less about organizational matters and more about scientific, project-related or conservation policy matters (Interview 11/15/2010). The e-loops, because they function amongst NSS members who know and work together, generally constitute 'reinforcement emails.' Besides the sub-group e-loops for wider NSS issues, there exists an, "old Yahoo groups [account] that has about 200 members on it," which functions, according the member-director as a: "kind of news group" (Interview 11/15/2010).

The role of email in maintaining crucial links amongst NSS members, its committees (amongst others); and the various NSS website migration processes potentially suggests a technologically-driven or impacts view along the lines that Graham (2004a) identifies as technological determinism. Such a view would problematically suggest that ICTs (whether emails, websites, ISPs, key webmasters, mobile phones, hardware or software or social media) are *the* foundational drivers or primary background determinants of the practices of NSS—rather than as media or tools which are *shaped by people's priorities,* including their ideals and ideas about nature and conservation issues. Instead an info-sociational approach suggests the need to understand the co-constituting aspects of civic groups and ICTs.

Here the thoughts of the member-director who discussed NSS's ICT-linked practices are prescient in understanding the info-sociational paradox that small civic environmental groups increasingly face in operating in what Laguerre (2005) terms, the 'digital city'. That is, on the one hand NSS's ICT-linked practices suggest a need to keep up with public and member interest in social media and microblogging (or whatever the 'latest' ICT trend is) and in which novel ICTs tools are important. For example, the member-director suggests:

> *"I suppose it's got to go with what whatever comes up. I mean I don't use Facebook myself, but I admit we've got to be on Facebook. In fact maybe we will be on Twitter sometime. I don't know. I'm sure lots of members maybe Twitter to each other in smaller groups, to get together for things, you know. We have to*

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use it because you can't get left behind. Even though some us personally get left behind, but the [Nature] Society can't get left behind" (Interview 11/15/2010).

However, on the other hand, the crucial importance of ongoing face-to-face, or in person relations in the NSS were identified:

> *"I think we've always got to be face-to-face. It's just that virtual helps us do more face-to-face more efficiently […] I think the virtual world is a medium it's not an alternative to reality"* (Interview 11/15/2010).

More about the socio-technical and civic vs. commercial 'realities' of this paradox—termed here: 'face-to-face versus *face-to-Facebook'*—will be discussed in the overall analytical comparisons amongst and between city-specific civic environmental associations (in Chapter Eight).

Besides the Society website providing a window into the workings of NSS, the use of email has been amongst the longest lasting ICT tools or platforms used in NSS's work, as Table 6.7 illustrates. Examining NSS's website migration story and its email practices has also been helpful for understanding actor-network organizational decision-making. However, additional insights are needed to understand how NSS externally mediates and engages with a diversity of publics. This includes how these digital tools may be catalyzing the public on conservation, environmental and land use issues in Singapore. This is the focus of the next section on participatory info-sociational practices.

6.3.2 NSS's participatory practices

This section explores NSS's involvement in Singapore's dynamic 'green public sphere'—to adapt Yang and Calhoun's (2007) concept in the Singapore context—and in particular, the intertwining of physical and ICT-linked practices. This section tackles these topics by first exploring NSS's own involvement in ICT-linked social and new media in the changing Singapore civic-cyber sphere. The section also looks at the role ICTs are playing in sharing with interested publics, NSS's longstanding 'civic environmental intelligence'—an adaptation on Schuler's (2002) term (and a cross-over concept in the info-sociational model)—including plans and publications which are reformatting or remediated in 'multiplicative' digital media. Here, arguably, ICTs are giving 'new life' to texts and images—as digitally remediated forms of publicity—especially when deployed in current civic environmental campaigns. These issues intersect in the second section here, which briefly involves examining the 2011-12 Buhkit Brown campaign where NSS has linked-up in alliance with new generation of civic-cyber activists to focus on Singapore built and natural conservation, transportation planning and civic engagement issues.

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Table 6.7: **Duration of NSS's uses of ICT tools or platforms [years]**

Use of ICT tools / platforms	11+ years	9-10 years	7-8 years	5-6 years	3-4 years	1-2 years	0-1 years	non use	unsure
social media page				■					
micro-blog									■
active web site	■								
GIS map								■	
videos									■
web logs (blogs)									■
email discussion list		■							
web conferences								■	
e-newsletters		■							
SMS / phone alerts								■	
hosting e-petitions								■	
formatted e-letters									■
online surveys or polls								■	
online forums		■							

Source: Question #4, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia.' The question was phrased as follows: "As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms? In 2001 or earlier; in 2001-02; in 2003-04; in 2005-06; in 2007-08; in 2009-10; in 2011; we do not use this ICT / or no longer use; not sure" (Sadoway 2011).

6.3.2.1 New mediation and social media: 'knowledge at the speed of light'

What do NSS's books, online nature forums, blogs, and social media have in common? Besides all being forms of media (or mediated matter) these civic associational artifacts can all be understood as elements in the 'green' public sphere, as Yang and Calhoun (2007) suggest. Before discussing how ICTs can play a role as public sphere 'translation' tools, it is helpful to understand how the changing new and social media landscape in Singapore relates to the NSS's participatory practices. For example, the interview with the NSS member-director interview identified a number of ICT-linked practices and experiments by its own members, independent of NSS in Singapore's active online public (cyber)sphere (Interview 11/15/2010). In Singapore it was suggested that a number of NSS members had also been keen on experimenting with ICTs, independent of NSS. The member-director described this phenomenon:

> *"[F]rom about the year 2000 we've had […] members who've set up their own websites or their own e-groups. And ICT gives people the possibility to communicate with a small group of people, and nowadays with all the photos and things to post-up findings, to post-up photographs, to communicate very, very fast and so you've got a whole lot of people who've set up independent things. And this essentially…they can work very fast on things"* (Interview 11/15/2010).

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In addition, it was suggested that the modes of decision-making and deliberation in these relatively novel digital formations operated 'at the speed of light.' Such 'rapid response' digital formations and modes of organizing contrast with 'traditional' associations, at least in the case of NSS. For instance, it was noted that:

> *"They tend to make a proper, registered, organized, governed, democratic, society like Nature Society; which moves at the pace of group decision-making look like a dinosaur. Because a small group that has no constitution, no regulations, is not registered, can actually move at the speed of light […] those few people don't have to check what they say with the council or the [NSS] ExCo or anything like that, right"* (Interview 11/15/2010).

A critical juncture with these 'speed of light' formations (or 'rapid response' campaign tactics) was suggested as being the campaigning around the Chek Jawa issue—an NSS and a broader alliance campaign for protection of a sensitive intertidal zone on Palau Ubin at the turn of the millennium (see: Hobson 2006: 675; Tan 2007). Here the member-director compared traditional registered organizations (like NSS) to these novel 'speed of light' formations and suggested:

> *"[L]ike one thing that fostered a lot of it was the campaign for Chek Jawa where people were putting up [online] their own findings and grouping-up together as volunteers to go out and do things there. And there is a speed you know, that can come from it; these have ended up overlapping the registered organizations, right. I mean we don't have a problem with it, but the reality is that the larger organized society subscribed members and constitution, everything, cannot move that fast, there is no way"* (Interview 11/15/2010).

'Putting up findings' online combined with physical activities represents the type of 'mulitiplexing' or blended (virtual and grounded) practices that this investigation is interested in. These 'speed of light' campaigns also appear to have similarities to the 'viral social media campaigning' in Hong Kong's Tai Long Sai Wan incident (noted in Chapter Four). In the case of NSS, these rapid response multiplexed campaign alliances will also be discussed in relation to the Buhkit Brown and the Green Corridor campaigns below.

Arguably, social media commercial platforms—such as Facebook—cannot be defined as fully participative tools or fully public sphere platforms because they remain exclusive (or gated) media, rather than something that could nominally reach all publics (i.e. those who do not access ICTs, or social media) and are commercially mediated for profit. It does appear, however, that NSS's Facebook (March 2009) experiment has to some extent served as a public discourse and an outreach platform or tool—with campaigns such as the Green Corridor Proposal and the more recent Bukit Brown heritage conservation being linked and related to its Facebook site (Interviews 11/15/2010 and 07/08/2011). Here, the speed of adoption of ICT tools in civic associations and their treatment arguably as both internal organizational and participatory 'experiments'—akin to Neff and Stark's (2002) concept of 'permanently beta'—is worth examining further. For example, the choice for rapid (experimental) uptake of

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Nature Society (Singapore) Nature Forum

NSS - Watching the Wild, Watching over the Wild...

Board Index

FAQ Login

It is currently Thu Mar 22, 2012 4:01 pm

View unanswered posts • View active topics

Search... Search Advanced search

NATURE FORUMS	TOPICS	POSTS	LAST POST
Gardens and Nature Areas Discuss anything related to garden and nature areas - places to visit, how to get there, how to setup a special purpose garden (vertical, butterfly, vegetable etc)	23	68	by plain tiger Tue Mar 20, 2012 11:36 pm
Plants Discuss anything related to plants - id, propagation, care, disease etc Moderators: gerard francis, angieng Subforum: Plant ID	171	524	by plain tiger Sun Mar 18, 2012 11:29 pm
Arthropods Insects, Spider, Scorpion, Centipede, Millipede ... Invertebrate animal having an exoskeleton, a segmented body, and jointed appendages. Subforum: Odonata (Dragonflies and Damselflies)	166	442	by laurence leong Mon Mar 19, 2012 9:44 am
Aquatic Animals Fish, Jellyfish, Crab, Shrimp, Barnacles ...	5	10	by richardlbong Wed Mar 07, 2012 6:52 am
Birds Eagle, Owl, Pelican, penguin, Swan, Chicken ... Moderator: gim cheong	178	527	by alan owyong Thu Mar 22, 2012 2:06 pm
Butterflies and Moths Butterfly, moth, caterpillar and pupa Moderators: richardlbong, simon chan Subforums: Butterfly ID, Butterfly Garden	794	3493	by laurence leong Thu Mar 22, 2012 10:21 am
Mammals Lion, Kangaroo, Bat, Pangolin, Spiny Ant-eater, Seal, Whale, Dolphin ... Moderators: leopardcat, uncletony	21	43	by laurence leong Mon Mar 19, 2012 3:05 pm
Reptiles and Amphibians Crocodile, Lizard, Snake, Turtle, Frog, Salamander ... Moderators: leopardcat, uncletony	41	112	by laurence leong Mon Mar 19, 2012 10:04 am
Equipment and Accessories Discuss nature related equipment and accessories - binoculars, camera, boots, 4WD, apparels, bags etc.	5	22	by 6431 Mon Jul 18, 2011 5:41 pm
Others Discuss nature related subjects not covered by the above forums	16	39	by lenachow Mon Jan 02, 2012 1:01 pm

MEMBERS' CORNER	TOPICS	POSTS	LAST POST
Members' Lounge Take a break and have a chit chat	9	25	by bruno Fri Dec 09, 2011 2:41 pm
Food and Recipes Share anything related to food - food, recipe, places to eat etc	12	17	by angieng Tue Mar 06, 2012 2:33 pm
Photography Moderator: richardlbong	20	54	by alan owyong Mon Mar 05, 2012 7:03 pm
Market Place Post your buy, sell, trade, give here.	2	3	by LeSporty Fri Jun 11, 2010 1:45 pm
Test Forum Forum for testing and trying out posting	6	8	by amytsang Wed Nov 02, 2011 8:27 am

FORUM ADMIN AREA	TOPICS	POSTS	LAST POST
Announcements READ ONLY - Announcements, Events and News	14	18	by green baron Thu Jul 07, 2011 3:39 pm
Forum User Guide READ ONLY - Please read the topics here before posting.	11	11	by nss_admin Sun Feb 07, 2010 12:31 pm
Resources Share websites, blogs and any other nature related resources	0	0	No posts

NSS SUBGROUPS FORUMS — FOR SUBGROUP RELATED ACTIVITIES —	TOPICS	POSTS	LAST POST
Bird Group NSS Bird Group Moderator: gim cheong	3	4	by 1494 Thu Dec 29, 2011 11:33 pm
Butterfly Interest Group aka BIG Moderators: simon chan, anuj_o Subforums: Checklists and reports, Butterfly Trail @ Orchard	73	244	by plain tiger Sun Mar 18, 2012 10:57 pm
Conservation Committee	6	8	by plain tiger Sun Feb 26, 2012 12:01 am
Education Group Moderator: Gloria Seow	3	7	by kingfisher Mon Dec 12, 2011 8:09 pm
Horseshoe Crab Rescue & Research Moderator: cartwrighttaylor	1	2	by Green Baron Mon Jun 20, 2011 9:44 pm
Marine Conservation Group	0	0	No posts
Plant Group Moderators: gerard francis, angieng	7	10	by Green Baron Mon Jul 04, 2011 10:05 pm
The Nature Ramblers	1	1	by richardlbong Sat Jan 22, 2011 8:05 pm
Vertebrate Study Group aka VSG Moderators: leopardcat, uncletony	0	0	No posts

Figure 6.4: **A screenshot of the NSS's 'Nature Forum.'** An online forum for discussions about nature related topics. Source: http://www.nss.org.sg/forum/. Last accessed 22 March 2012.

commercial social media was notable in the deliberations of NSS on implementing Facebook in the Society. And like the 'migrating website' story (above) this illustrates the role of social media/tech savvy individuals as 'obligatory passage points,' in linking in NSS to ICT tools. For example:

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> *"We have Facebook. We are on Facebook because of our Vice President and the Assistant Secretary who are both on Facebook […] But it's because some people are experiencing things within in their lives they find very useful, they then put NSS on Facebook. And the rest of us find out later we are on Facebook […] Actually with Facebook I believe there wasn't deliberation. But, I think very much our line has been: 'if you can do it; and you will do it, then do it.' But yes, at the last Exco Meeting, the council meeting, we were talking about the website then. The people who put us on Facebook showed it to us.[…] So, its still is in that sense in terms of social media, it's if you can, those who can, those who see the potential in doing it, do it. Either they tell the others just before they do it or just after they've done it. And presumably if it adds to the range of what we got, so be it, no problem"* (Interview 11/15/2010).

This perspective suggests that the experimentation with commercial social media at NSS is being viewed as a potentially complementary ICT-related practice which 'adds to the range' or augments the Society's existing practices.

Another component of NSS's digital deliberations have already been occurring in the digital public sphere, namely in its historically active digital forums particularly those of its individual sub-groups. These forums have been consolidated into a single 'Nature Forum' e-discussion group (with subgroup member forums and related activities still included) with the migration and consolidation of the NSS website. This 'virtual gathering place' continues to provide a participatory public venue for both NSS members and non-members to interact online (NSS 2010a: 19).[300] Also as noted earlier, the popularity of online discussion forums had, in the 2000's, presented virtual public sphere challenges for NSS, as was evident in the example of the 'bird blogging battles.' These sometimes charged or even fractious digital discussion spaces continue to provide an important venue—distinct from commercial social media space for sharing information and discussing common ideas (or ideals)—representing digital 'community of practice' similar to those identified by scholars as occurring amongst networked civic associations and peers (Gurstein 2001: 272; Horton 2004: 736; Sassen 2004: 655). For example, a description of these NSS forums, from a Society publication suggests:

> *"The NSS Nature Forum, found at http://www.nss.org.sg/forum/, is a virtual gathering place that serves to facilitate discussions on a whole range of nature-related topics. You can share photos and ideas, ask questions and forge friendships with fellow nature lovers. The forum is open to both members and non-members. Register now for a free account !"* (NSS 2010a: 19).

The post-migration online discussion space, 'Nature Forum,' therefore continues to provide a participatory, discursive public cyberspace for members (free to the general public) to post topics on nature issues and Society-related administrative issues, as well as a venue for the individual sub-groups themes (Figure 6.4), not unlike the importance of discussion forums in green discourse that Yang and Calhoun (2007) refer to.

[300] Although the NSS online 'Nature Forum' is open to non NSS members, interested publics do need to register for their free digital account in order to join in the virtual discussions as identified in NSS's (2010a: 19) *Nature News*.

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The migration to the amalgamated NSS website also highlights the potential to increasingly 'remediate' NSS's longstanding publishing traditions—either making reports accessible online; or in the case of its books and special publications previously for off the shelf sales potentially available through an on online purchasing facility. Notably the new website features a commercial payment service (i.e. PayPal) (Interview 07/08/2011). Notably, on the post-migration website a range of what are traditionally paper NSS publications—such its various position papers, activity group reports, Conservation Committee reports, *Nature News* (newsletter), and *Nature Watch* Magazine—were, at the time of writing, available in digital format. For example, *Nature News* (published six times annually) began to be posted online in 2010. The member-director reported some of the dilemmas leading-up to this decision:

> *"Over the last ten years a certain group of members have continually said shouldn't this be online? Another group of members say, no, we don't want it online, we wouldn't read it online, or even I haven't got a computer anyway […] Probably our membership because of the type of thing we are; and because nowadays it's possible online to group-up and to feel effective without anything to do with membership subscriptions. Our membership is probably skewed towards the older group rather than the younger group"* (Interview 11/15/2010).

With NSS's membership, "skewed towards the older group rather than the younger one" (Interview 11/15/2010), it was suggested that there may be a degree of a digital gradient in the organization—although there are notable exceptions, such over 70 year-old blogging coordinator for the Bird Ecology Study Group. Respecting both bird bloggers and hard copy traditionalists, NSS has chosen to provide options for either receiving a hard (paper) or PDF copy—notwithstanding the fact that potential mailing cost reductions and paper savings were identified as rationale for going digital.[301] For example, the Fall 2010 edition of, *Nature News,* suggests:

> *"Members who are happy to A) Get your copy of Nature News via an emailed PDF file (less than 5MB), or B)Download the same PDF file from the NSS website, and who wish to opt-out from receiving hard copies by snail mail to save trees, please inform Joe at joe@nss.org.sg. Please state if you prefer Option A or B"* (*Nature News* [NSS 2010: 19).

This discernible shift—from paper to digital—as a medium and means of publicity is arguably one part of the reconfigurations of the civic-cyber public sphere (at least in the context of NSS's practices). Besides basic questions of efficiency (i.e. mailing cost or paper reductions) the shift to digital (re)mediation potentially allows for NSS's longstanding publications and ongoing proposals to be increasingly accessible (and with a wider geographic reach) for interested publics, including piquing the interest of potentially new civic environmentalists—although the member-director felt that basically the same 'range of people' who were always interested in their proposals were accessing them ("just more quickly") now online (Interview

[301] Although one could also contend that there remain energy and carbon impacts from the digital footprint of online hosting and downloading manifest in the energy consumption of server farms or data warehousing for 'cloud' software.

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11/15/2010).[302] Rapidly posting or making traditional proposals and studies available online at critical moments when on the ground campaigns are simultaneously occurring also appears to have helped inform discourse and debate on these issues. Examples of this and the role of NSS's publication (re)mediation (as well as social media practices) will be further discussed below in relation to the Green Corridor and Bukit Brown campaigns.

An overview of NSS's website reveals the extent to which the Society's environmental actor-network is involved in civic participatory activities—and how these are being mediated through digital discourses. For example, an early version of the NSS's post-migration website homepage archived by the author (17 January 2011)—besides providing links to NSS subgroup websites (at that time which were still functioning independently in parallel to the main Society website) and links to donor, volunteer and membership information—also featured an 'events calendar'; the latest downloadable edition of, *Nature News;* and a lengthy listing of 'news' with synopses and related links, amongst a vast array of information.

Examining the dynamics of civic environmental group web pages in a discursive manner provides insights into a group's ideals and ideas—along the lines of Horton's suggestion that a website: "constructs the group and reproduces its collective identity" (2004: 55). The extensive extract of NSS-related news, documents and links (from 2009-2010) listed above provides important insights about how NSS's website serves as both a window which 'mediates'; and as a structuring device which 'recontextualizes' or frames information via its website (Scollon 2008). Notably the NSS homepage extract listed above includes connections to *spaces and sites of action* (cleanups, nature walks, butterfly trails); and *types of action* (citizen science, education/outreach, bird species counts, public input into processes); as well as to actual *digital or physical artifacts* (proposal invitations [RFPs], NSS books, opinion pieces, registration forms, hyperlinks)—all mediated through the Society's website[303] In some respects both the temporal perspectives of the NSS website also identifies elements of what Schuler (2003) has termed 'civic intelligence' (in this case 'civic environmental intelligence')—that is intelligence in the specific civic projects and initiatives (traceable by following the website links and examining the projects or initiatives in greater detail).

A more recent review in April 2012 of the post-migration (i.e. post-2010) NSS website reveals more extensive subsidiary levels (nested) pages than existed in the January 2011 site and some of the same as well as additional links including: news, resources, an online shop, sub/activity groups, donations or support, activities, projects, (calendar) events, 'Nature Forum' (e-discussion board), and background information ('about us') on NSS; along with links to its commercial social media platform (i.e. Facebook) page, RSS feeds and for contacting the Society.[304] Another perspective on how ICTs may be involved in reshaping participation and

[302] This possibly suggests a co-evolving NSS 'institutional memory' linked to digital publicity. Besides opening-up or democratizing access to the various publications and NSS proposals/plans previously noted in the Chapter, specialist NSS information can be archived or 'mined' via archiva searches or spatial tools.

[303] Mediation and recontextualization, Scollon (2008: 18, 46-49) suggests, provides a helpful means for understanding how off / online documents are formatted, summarized or reduced and how as public discourses they 'mediate action.'

[304] Available at: http://www.nss.org.sg. Last accessed 17 Jan 2011.

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public perceptions (and understandings) of civic environmental issues, is taken up in the discussion of the Bukit Brown example which follows.

6.3.2.2 Of highways, graveyards and nature: the Bukit Brown campaign

Bukit Brown is a large park-like graveyard—with nearly 100,000 tombs located in close proximity to Singapore's Central Catchment Nature Reserve (in South-Central Singapore Island)—considered of cultural and natural heritage significance (Nature Society 2011, 2012). In 2011, faced with the imminent destruction of nearly 5000 historic tombs in Bukit Brown—a result of the proposed construction of a multilane highway by Singapore's Land Transportation Authority (LTA) that would transect the area—various groups of heritage activists initiated face-to-face and digital campaigns. These campaigns focused on protecting Bukit Brown from the freeway construction project and longer-term plans for an HDB housing estate in the area (Liew 2011; Nature Society 2011: 12; Nature Society 2012).

Along with cultural heritage issues, other concerns raised by the Bukit Brown campaigners (2011-2012) have included a comprehensive list of urban environmental threats; as well as the impacts of a perpetually expanding vehicular road network; not to mention a lack of transparent, participatory planning on the part of government agencies (see: Lim & Wong 2011; Lee 2012).[305] For example, The 'SOS Bukit Brown-Save Our Singapore !' website identifies a number of these concerns in conjunction with their on- and offline campaigning efforts. For example the SOS site notes:

> *"LTA [Land Transportation Authority] wishes to build a highway the size of CTE (8 lane—48m wide by 2.2km) through Bukit Brown. The process of exhumation and highway planning will start as early as March 2012. The result will be the losing of 5000 graves, destroying the forest, bio-diversity, global warming and other environmental impacts like the risk of flooding"*
> (https://sosbukitbrown.wordpress.com. Last accessed 21 March 2011).

NSS's role in the Bukit Brown campaign began to take shape in the Summer 2011 when—at the time of a research interview, the Society was evidently determining what its role and response should be (Interview 07/08/2011). The NSS member-director at that time suggested that:

> *"[W]e've got to decide how strong we are going to be on Bukit Brown. And I mean the Railway Corridor has been taking up a lot of our time right. And Bukit Brown has just come up because they've announced that they are definitely going to redevelop the area […] it is a cemetery with these beautiful old graves and things, it is a heritage issue. It's one where the heritage thing I think would lead, and the nature would be a second element to it, right. It's just that we've*

[305] The Urban Redevelopment Authority in Singapore for example has responsibility for long term concept plans (with the 1991 Concept Plan slating eventual development of the Bukit Brown cemetery [nominal heritage area] lands—see Lim & Wong 2011) while the HDB is responsible for plans for Singapore's extensive and impressive public housing estate developments. In relation to Bukit Brown a key agency involved was the Land Transportation Authority, responsible for Singapore's road transportation network.

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got to decide where we come in on it. In fact, I think I am supposed to be drafting a letter or something for the newspaper" (Interview 07/08/2011).

In late 2011, NSS released a position paper (12 December 2011), which amongst other recommendations, called for an environmental impact assessment of the proposed freeway transect and planned housing estate; and it proposed an alternative plan nominally designating the Bukit Brown area as a protected 'heritage park' (Nature Society 2011).[306] A wider group of allied campaigners—including the Save Our Singapore (SOS) heritage conservation coalition noted above, and longstanding heritage organizations like the Singapore Heritage Society (SHS)—have focused on the exhumation and loss of up to 5000 tombs-graves, and their importance as a cultural heritage ensemble. NSS has linked to this coalition effort digitally by linking to the SOS-sponsored petition (and website). For example, in a 'special announcement' on NSS's homepage, the "Petition to Save Bukit Brown" is identified: "We also urge you to help us support a petition to collect 100,000 names—one for each grave. You can download the petition form *here*" (and the link leads to the SOS coalition's site).[307]

The Nature Society 2011 position paper and subsequent updates in 2012 including a release of a response paper and a bird checklist (for Bukit Brown) in have been posted on the NSS website (in March-April 2012); along with important news and links (Nature Society 2011, 2012). Also notable is a Bukit Brown themed commentary and discussion on the Nature Society's Facebook page.[308] This multiplexed on and offline campaign—linking petitions, social media chat, detailed counterplans and NSS-sponsored studies—illustrate how, partially through the use of ICTs, NSS has projected its position on Bukit Brown in relation to an evolving and wider actor-network of allied campaigns. One of these groups is the Singapore Heritage Society which also posted its own position paper focused on the heritage significance of Bukit Brown and recommending designation as a legally protected (gazette) heritage site and a heritage park.[309]

The response to Bukit Brown occurred within a relatively short period of time since deliberations on the NSS's possible role in relation this issue were only occurring in Summer 2011—when NSS was still considering how to help "popularize, publicize" an allied heritage petition in response to the impending freeway development proposal (Interview 07/08/2011). Besides the crucial physical and face-to-face campaign aspects, a broader multiplexed 'knowledge community' or alliance 'issues networks' respectively emerged along the lines of

[306] The NSS position paper also documents the importance of Bukit Brown's natural vegetation, ecosystems services (e.g. carbon sequesterization, natural cooling, rainwater buffering); and biodiversity legacy (birds and other threatened species, forest species, links to other natural corridors and protected areas) (Ibid., 3-10).

[307] The NSS special announcement on Bukit Brown is located at: http://www.nss.org.sg/special_announcement.aspx?id=ohgTSSH5yoO=. Last accessed 21 April 2012. And the link to "download the petition form" takes viewers to the SOS campaign's request to sign an open letter / petition located at: http://sosbukitbrown.wordpress.com/action/sign-our-petition/. Last accessed 21 April 2012.

[308] See "Bukit Brown at a crossroad: possible alternative" digitally published by NSS member Goh Si Guim, at: https://facebook.com/notes/nature-society-singapore/bukit-brown-at-a-crossroad-possible-alternative-by-goh-si-guim/10150673924449404. Last accessed 28 March 2012.

[309] Press release 4 February 2012, The Singapore Heritage Society (SHS) has published its 'Position Paper on Bukit Brown' (2011). Available at: www.singaporeheritage.org/?p=1930, accessed 21 April 2012. An interview was also held with the Singapore Heritage Society (9/18/2009), although before Bukit Brown had become an issue of significant public concern.

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Bach and Stark's (2005) and Marre's (2006) framing of civic-cyber activism. This alliance included, besides the Nature Society (Singapore), groups like the Singapore Heritage Society, the SOS coalition (NSS-linked petition partners), as well as the Pernakan Association, the Hokkien Huay Kuan, Singapore Polo Club and National University of Singapore's South-East

Asian Studies Society, amongst others (Liew 2011). Notably Green Drinks Singapore has also supported this civic-cyber alliance—not only by posting news and links about Bukit Brown on its blog/website (such as to the NSS and SHS position papers)—but also inviting (30 November 2011) NSS's Dr. Ho Hua Chew to speak "on the ecological impact of redeveloping Bukit Brown," and heritage guide Raymond Goh discussing the "heritage importance of Bukit Brown."[310]

The SOS blog/website—which was linked by NSS's as venue for Bukit Brown campaign signatures—identifies proactive strategies, such as providing convenient links for sending letters to parliamentarians and for downloading their petition (see Figure 6.5). Besides these digital alliances, key physical activities such as a public forum (with NSS represented) and historical and nature tours (some organized by NSS) have taken place in support of the Bukit Brown amongst multiplexed allies.[311]

A recent article on protecting Singapore's 'Urban Commons' by architect-planner William S.W. Lim and researcher Faith Wong refers to the significance of the Bukit Brown campaign—including the efforts of the Singapore Heritage Society and Nature Society Singapore—in the context civic-cyber activism on Singapore participatory and spatial issues. They suggest that Bukit Brown not only signifies a lack of consideration for 'the Commons,' but also for Singapore's cultural identity and collective memories. Moreover they lament the lack critical public discourse about the mode of Singapore's development signified by the freeway plans:

> *"One only wonders whether this is enough to rouse the nation from its familiar apathy towards the government's pro-development strategies that often throw the nation's heritage under the bus"* (Lim & Wong 2011)

Lim's and Wong's article—available on an Singapore online news site which has provided coverage and links about the Bukit Brown issue[312]—goes on to suggest that despite the fact that land use plans for the Bukit Brown area were identified in advance (in the 1991 *Singapore Concept Plan,* for example) that Singapore's development planning processes ought to be responsive, adaptive and open. In particular they suggest that an, "open active public discourse would facilitate a transparent process that will build trust in governance" (Ibid.).[313]

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[310] The Green Drinks Singapore November 30th, 2011 event was entitled: "Environmental & heritage impacts in redevelopment Bukit Brown." Available at: https://sggreendrinks.wordpress.com/2011/11/30/green-drinks-environmental-implications-in-redeveloping-bukit-brown/. Last accessed 21 April 2012.

[311] For example on November 19, 2011, the Singapore Heritage Society, along with National University of Singapore's South-East Asian Studies Society organized a well-attended public forum on the Bukit Brown issue. The format involved a panel and audience discussion—including a presentation by Dr. Ho Hua Chew of NSS's Conservation Committee.

[312] The site is *The Online Citizen.* Lim's 16 November 2011 article can be found at: http://theonlinecitizen.com/2011/11/protecting-our-commons/. Last accessed 17 November 2011.

[313] The issues that Lim and Wong's article raises also relates to broader questions of civic discourse, debate and public engagement in urban governance including in land use and transportation planning processes; along with the need to question: "the myths of land scarcity and urbar

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To review, the Bukit Brown campaign has identified a broader set of interrelated heritage, environmental and civic engagement concerns triggered by a 2011 freeway proposal. The various groups involved in what might be termed a, 'Bukit Brown alliance'—including NSS's efforts—demonstrate how ICTs can serve as a 'rapid response' new media tools (at the 'speed of light' as the NSS director-member suggested); as well as providing tools for augmenting civic environmental alliances. ICTs were being employed in the Bukit Brown campaign in a number of other important ways including: to link the public to (cyber)sphere tools such as e-petitions; to prompt campaign discussions, dialogue, article sharing/mediation and provide key hyperlinks (on social media and the SOS website/blog); as a clearinghouse for one-person-one-letter (OPOL) campaigns; as well as a medium for provisioning interested publics (including activists) with more detailed background and policy analyses (e.g. NSS's 2011 position paper; SHS's 2012 position paper). Although at the time of writing the freeway construction appeared imminent, the Bukit Brown campaign alliance's face-to-face and ICT-linked practices appear to hold important lessons for Singapore natural and cultural heritage lovers.

6.3.3 NSS's spatial practices

This section focuses on two types of ICT-linked spatial practices at NSS. The first example, examines NSS's recent involvement in the Green Corridor Campaign—a land use and environmental alliance with similarities to the Bukit Brown multiplexed alliance and both akin to Sassen's (2004: 655, 662) 'communities of practice', however within the city-region. The second example of spatial practices relates to the several additional NSS-sponsored activities (online bird mapping and a smart phone application project currently in the development stages). These examples identify novel ways of mediating, perceiving and possibly understanding nature (alongside old or traditional ways). At the same time such approaches potentially raise new critical questions about ICT practices in civic environmental associations.

6.3.3.1 People-driven alliances: ICTs and the Green Corridor campaign revisited

NSS's role in the 'Green Corridor' campaign has similarities to the Bukit Brown campaign in that it represents a rapidly formed (and co-evolving) civic-cyber alliance formation who responded to a series of unfolding urban land use and conservation-related events by employing digital and physical tactics in their campaigning. The 2010-11 Nature Society's campaign for the protection of the Keretapi Tanah Melayu (KTM) (Malay Railway) former rail corridor focused on demands for protection of nature alongside the right of way of the former KTM lands—situated on the former north-south line (with a small east-west spur) running from the historical heart of Singapore (in the southern part of Singapore Island), to Woodlands (in the North of Singapore

transport" which they say are, "used as the rationale for development" (Ibid.). Also see Goh's (2012) comment on Bukit Brown and related transportation issues on NSS's Facebook page. Available at: https://www.facebook.com/notes/nature-society-singapore/bukit-brown-at-a-crossroad-possible-alternative-by-goh-si-guim/10150673924449404. Last accessed 28 March 2012.

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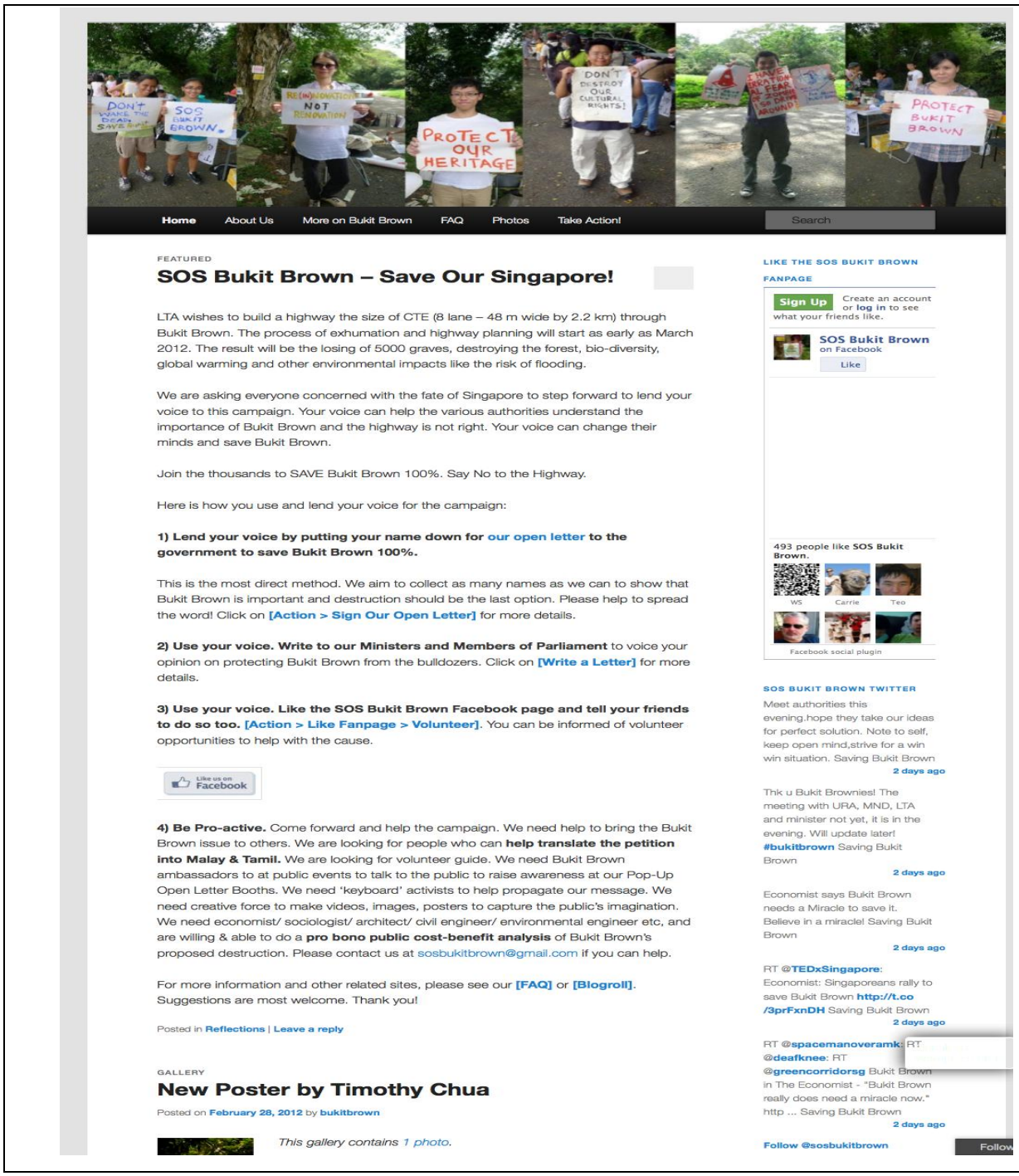

Figure 6.5: **A screenshot from the SOS (Save Our Singapore) Bukit Brown blog/website.**
Source: https://sosbukitbrown.wordpress.com. Last accessed 21 March 2011.

Island).[314] Although this case was referenced in the Green Drinks Singapore (GDS) case noted earlier (see Box 6.2), the discussion here further explores NSS's distinct role in this on and

[314] The author was fortunate to travel from Singapore to Kuala Lumpur in the mid-2000s when the KTM railway corridor in Singapore was still being used. This included boarding the train at a KTM station in South-Central Singapore; riding along the Singapore corridor to Woodlands to Singapore customs/immigration; and then crossing a bridge by rail across the Straits of Johor to Malaysia northbound for Kuala Lumpur.

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offline civic environmental alliance. In particular two aspects will be examined as synthesized here the two-part maxim: *vision; and walking the talk*.

First, it is important to identify the influence of NSS's proactive vision for the use of the KTM lands. This focused on its sketch for a conservation-based concept after the Singapore government took possession of the corridor from KTM and the Malaysian Government. This vision is evident in the contents of Nature Society's 2010 document: "The green corridor: A proposal to keep the railway lands as a continuous green corridor" (originally downloadable on NSS's website).[315] The proposal document assembled a powerful collection of imagery of built and natural heritage along the corridor, including illustrated maps, and was assembled to suggest the possibilities for connecting with existing and possible future green areas or linear green links in Singapore. The 'Green Corridor' proposal, was digitally remediated on the NSS website, and crucially was linked (and recontextualized in stories or synopses) on other ICT venues—such as online new media stories and links in Singapore (e.g. *The Online Citizen);*[316] as a cover story in NSS's *Nature Watch* magazine (hard and digital copy); and on NSS's Facebook page. The proposal and its spinoff publications both digital and paper arguably played a key role in influencing (or provoking) other allied civic environmental associations and civic-cyber formations in the campaign.

Second, the role of NSS members as actors helping to generate 'talk (and text)' through networking, alliance building and publicity—focused on its Green Corridor concept—arguably helped to multiply interest in the NSS vision whether in public talks or guided walks, in its publications or in online discussion. This civic multiplier effect was evident with NSS's mid-May 2011 partnership with the Singapore National Library Board which was linked three elements: a talk about the rail corridor's fate and NSS's proposal; a walk along the rail corridor; and a writer's workshop about the: "railway or memories of their childhood and railways" (Interview 7/8/2011). The creative writing workshop—not unlike the examples in the other cases in this investigation such as OURs art project on climate change or DHK noting the importance of art activists in Hong Kong—illustrates that a number of civic environmental organizations retain holistic perspectives on what constitutes civic activism and education.

In addition digital 'talk' was generated through links to NSS's proposal in new media which linked to its plan and importantly to discursive ties with a wider alliance of designers, nature lovers, bloggers and heritage/railway enthusiasts who eventually became an integral part of the multiplexed alliance with its own webpage ('The Green Corridor.org'—Figure 6.6) and a commercial social media page (Facebook).

[315] 'The Green Corridor' proposal represents a synoptic conceptual plan—articulating the possibilities for connecting green spaces to people in their communities or neighbourhoods; and the possibility of developing a pathway for clean or alternative modes of transportation (i.e. foot, cycling). Rather than being a highly detailed blueprint or a critical analysis, the proposal discusses the historical and heritage importance of the corridor along with presenting two case studies of recent urban linear park innovations in other 'world cities' (Promenade De Plantee, Paris; and High Line Park, New York City).

[316] Joshua Chiang (2011) in a story ("Saving the line") posted on *The Online Citizen* (2 April 2011), makes reference to the NSS's proposal and its use of nature walks to raise awareness about the fate of the KTM lands. And *The Online Citizen* (25 June 2011) also interviewed a member of NSS about its proposal. Available at: http://theonlinecitizen.com/2011/06/ktm-railway-lands-what-next/. Last accessed 26 June 2011.

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This group's website encourages citizens to: blog and upload their 'community stories' in order to, "build an archive of stories about the railway and The Green Corridor"; and to share, tag and repost photos and videos (using commercial services such as 'flickr' and 'YouTube' respectively).[317] Green Drinks Singapore—which supported The Green Corridor.org digital activism and NSS's visionary proposal—also identified the importance of ICT-linked activism in the KTM corridor campaign (see previous case). These examples, illustrate civic-cyber alliance formations, particularly 'communities of practice,' (Horton 2004; Sassen 2004) which share a focus on place and space, but also the use of ICTs.

NSS's director-member described the importance of this cyber-civic activism in the Green Corridor alliance:

> *"[T]here's a 'Support the Railway Corridor' Facebook page and various other things. I mean IT is being used very extensively for that campaign. And I would say very effectively. And that's where we've got members who can do that. [Why would you say very effectively?] Because I think it's brought in lots of people and lots of younger people to get involved. We are having public walks along the railway line. And, you know, you put it onto Facebook and a hundred people turn up, just sort of within in a couple days"* (Interview 7/8/2011).

In addition, NSS's *Nature Watch Magazine,* which featured a cover story on the Green Corridor was physically and digitally distributed in order to help garner support for the campaign. In relation to this it was suggested that:

> *"We had one issue where we put our proposal for the railway corridor, as green corridor, as the first article on the cover based on it and then we printed up a lot of extra copies of that issue of Nature Watch magazine to give out to people as well right. So you've got one set of people to whom you give hard copy material right, but the proposal is of course up on our website as well. You can read the full proposal on the website"* (Interview 7/8/2011).

Given the comittment to protection of the KTM lands as some form of as of yet specified linear park,[318] the continuing issue that NSS is focusing on is ensuring that the natural areas alongside the corridor have adequate protections.[319] The apparently successful outcome in the green corridor campaign not only signaled new types of civic-cyber environmental actor-network

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[317] For example, instructions for uploading and sharing: blog postings, images and videos about the Green Corridor were available at: http://thegreencorridor.org/share/. Last accessed 22 March 2012.

[318] Here it was suggested by an NSS member that: "I think for us the issue is getting the widths at certain points. Because the railway land is there's a track and then at a lot of places its wider or its narrower historically […] The issue is getting a wide enough strip to keep the nature that is there […] as a real green corridor with nature on both sides incorporating a lot of the re-growing secondary forest that has developed and things like that along the edge" (Interview with NSS member-director 7/8/2011).

[319] The Minister for National Development (Khaw Boon Wan), was reported in the, *The Singapore Straits Times* (18 July 2011), as assuring the public that greenery along the corridor would be protected. In addition he cited the possibilities for housing development alongside the corridor, "but we will do it in a way where we can still preserve this green spine," he noted in the article. Available at: http://straitstimes.com/BreakingNews/Singapore/Story/STIStory_691869.html. Last accessed 18 July 2011.

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formations it also arguably demonstrated the possibility of more consultative modes of governance. Here Lim and Wong's (2011) description compares civic engagement in the Bukit Brown campaign to the KTM rail corridor campaign:

> *"In contrast (with Bukit Brown), the government's ready engagement of the public regarding the fate of the KTM railway land should be applauded. The various design schemes and ideas proffered in the consultative process provide a clear directive towards any potential development, that is, to keep the 26km tract as a public green to be defended from acquisition for commercial use. The Rail Corridor is an unprecedented historical opportunity to provide wonderful experiences to all income and age groups, whether as a leisure and recreational site or a venue for art and cultural activities."*

To recapitulate, NSS's role in the Green Corridor campaign was not simply as being 'paper pushers'—but rather as a group that links its longstanding strengths, including educational walks, with its unique form of civic environmental activism by 'walking the talk' so to speak. The Green Corridor campaign was inspired by NSS's visionary concept (NSS 2010b), however, it also involved a wider alliance of civic-cyber activists and supporters—including Green Drinks Singapore—and not only did it demonstrate how ICTs can interface with physical campaigning (such as 'activist' nature walks), but also it also appears to have prompted hope—as Lim and Wong's (2011) commentary above illustrates—that potentially more open forms of civic engagement about land use and environmental issues are possible in Singapore.

6.3.3.2 ICT tools: new ways of seeing nature or a technological trap?

Another set of ICT-related tools that NSS has employed in recent years relates to the species (and their habitats) that have shaped many of the initiatives of the Society. As was noted in the interview with an NSS member-director, a range of ICT-linked tools have been employed in NSS's field studies—both scientific and novice—including GPS, digital cameras, along with various sensors for example for surveys (e.g. bird, crab or bat research) (Interview 11/15/2010). In addition, the role of professional quality photographs was noted as being particularly important with the latest version of the NSS website (versus graphic imagery).[320]

Related to the use of accuracy in nature photography, the member-director noted (in an earlier interview) that SMS alerts for rare birds, along with picture sharing for species identification (using PDAs and the e-discussion groups) occurred, particularly amongst Bird Group members (Interview 11/15/2010). While these tools are largely employed in project research or in communications amongst members (and sometimes remediated on the NSS website, in forums or e-groups), another set of spatial tools—also related to NSS's scientific and novice naturalist

[320] For example, it was suggested that NSS has many good member photographers and their images were expected to contribute to the site: "There are masses and masses of good photographers. Basically you base your image of yourself [organization] one way or another on good photography. Accurate photography is what you use for things. And so many members are good at it" (Interview 7/8/2011).

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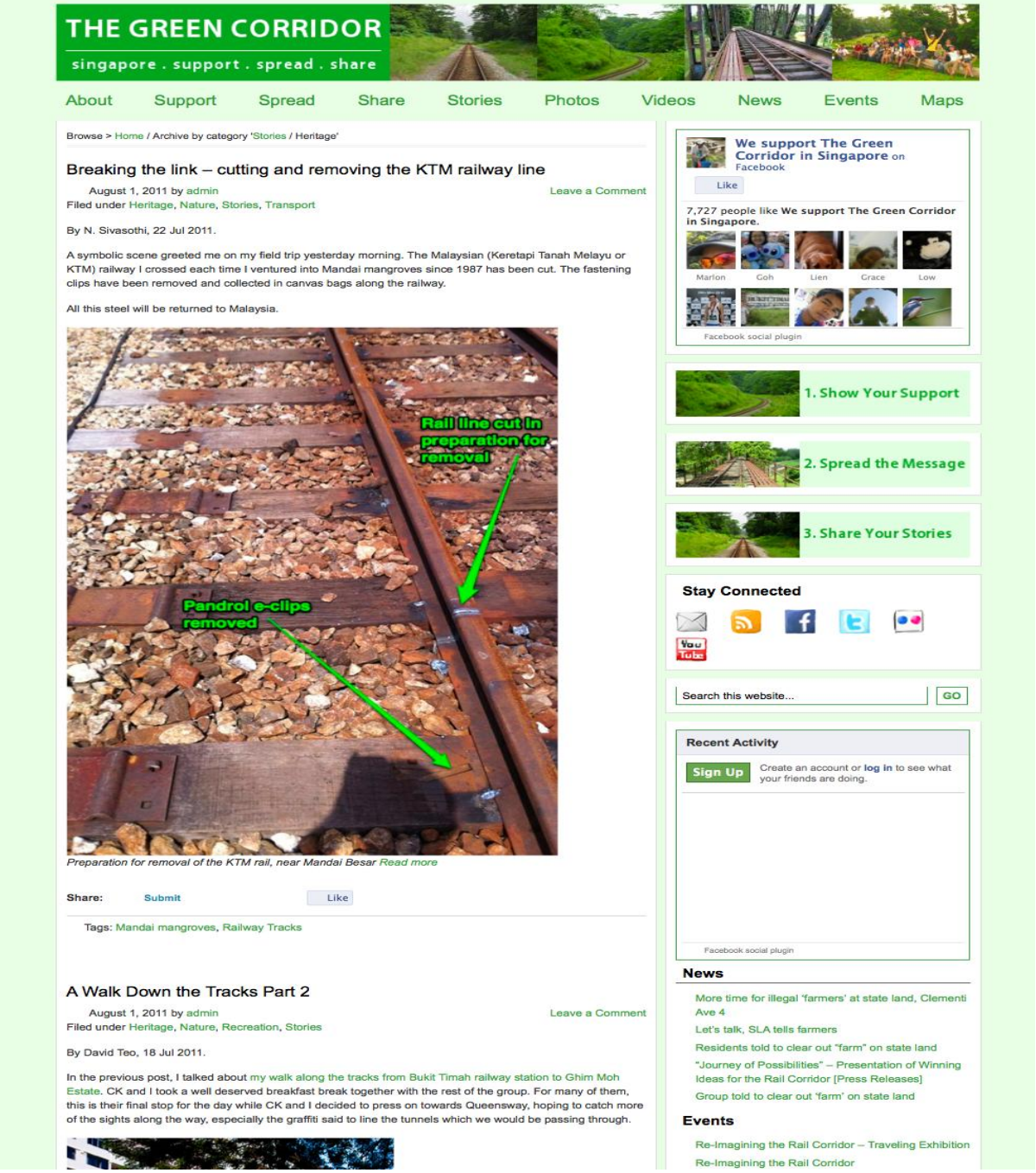

Figure 6.6: **A screenshot from the allied blog/website, 'The Green Corridor.org.'**
Available at: http://www.thegreencorridor.org/category/stories/heritage/. Last accessed 22 March 2012

subgroup research efforts—but are intended to function in the digital public sphere. Two examples of these spatial tools, which in some respects demonstrate spatial transformations

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(on a regional or bioregional scope) are briefly discussed here. First a digital map for identifying Singapore bird 'hot spots' is discussed; and second, a proposed set of smart phone applications (or smart phone apps) will be briefly noted.

The first example, relates to an online digital map developed by NSS in partnership with the Singapore Land Authority (SLA).[321] The map itself allows for searches and scalar toggling (i.e. geographically zooming in/out). Searches can be conducted on the map according to either bird watching 'hot spots' (i.e. locations throughout Singapore island) or by 'habitat info' (i.e. forest, woodland, parkland, scrubland, grassland, freshwater marshland, mangrove and tidal mudflat) as well as by 'bird info' (i.e. visual and behavioral data such as resident/migrant, (un)common, habitat, food, etcetera). The NSS website describes how to navigate this map:

> *"Local birdwatching hotspots are grouped under various habitats. A click on a selected habitat, e.g. grassland, with [sic] open up a list of hotspots to choose from. Clicking on a particular hotspot will produce maps and directions to go there, and more clicks will open up more information and photographs on the areas and the flora and fauna that can be found there"* (http://www.nss.org.sg/project.aspx?id=15. Last accessed 22 March 2012).

Bird 'hot spot' information is both spatial and tabular in nature—with a local map identifying viewing sites and a listing of the following locally relevant information: numbers of 'species recorded;' the 'dominant birdlife;' in situ 'conservation status;' and 'bird watching trails and spots.' The map is understood by NSS as tool for promoting environmental education and potentially, eco-tourism. For example, NSS notes on its website page for 'Birdwatching Hotspots in Singapore' that:

> *"This was a great opportunity for the Society to reach out to the public in promoting nature appreciation and bird watching. Eco-tourists will also find it a breeze to get to some of the best nature sites and to know the kind of habitats and wildlife to expect there"* (http://www.nss.org.sg/project.aspx?id=15. Last accessed 22 March 2012).

Illustrative of the 'permanently beta' nature (Bach & Stark 2005) of how digital transformations are continuously shaping and shaped by civic associations, NSS has taken its use of ICT tools to another experimental level with the development of smart phone/mobility device applications. For example, a member of the Bird Group outlined the recent development of NSS smart phone applications which are intended to be linked to a digital guide and photo gallery (noted in email correspondence with an NSS Bird Group [BG] member 10/4/2012; also discussed in interview 7/8/2011). These smart phone applications were seen as natural extensions of paper guides developed by NSS—Nature Field Guide—and have been developed over a roughly fifteen month period (commending in February 2011) with the assistance of funding from the

[321] NSS collaborated with the Singapore Land Authority's (SLA) online mapping project which sought to encourage the provision of spatial data by various civil society, public and private sector groups (http://www.nss.org.sg/project.aspx?id=15. Last accessed 22 March 2012).

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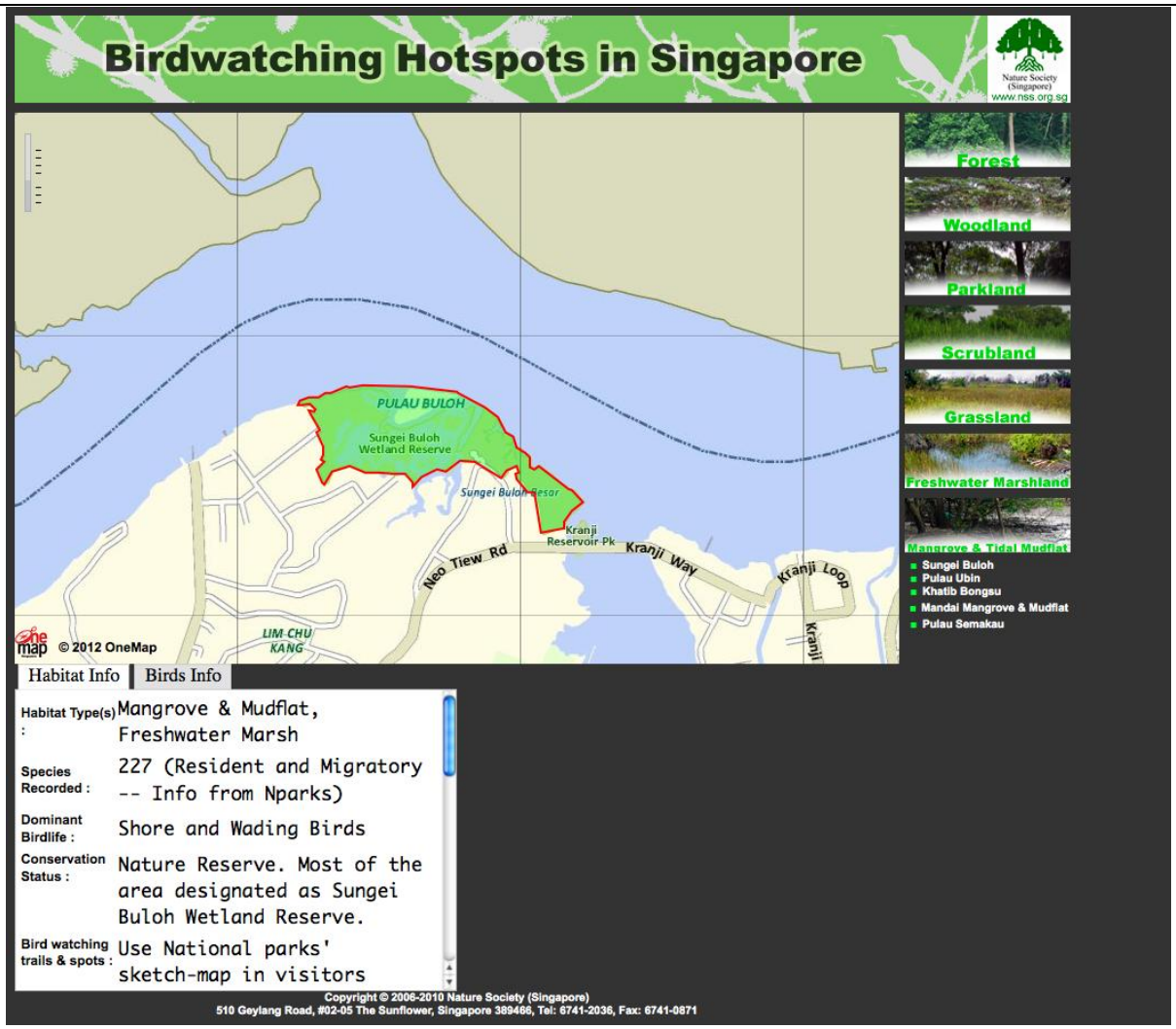

Figure 6.7: **A screenshot from the NSS's Birdwatching Hotspots site in Singapore.**
The GIS-digital mapping tool indicates bird watching locations throughout Singapore including habitat and species-specific data. Source: http://www.wildbirdsingapore.nss.org.sg/Default.aspx. Last accessed 22 March 2012.

Singapore government and corporate sponsors.[322] In describing the applications under development the BG member suggested:

> *"The app is designed for both novice and expert. We wanted an app which we will use in our research, survey and guided walks as well as one which the public can use to engage with nature. Photos are presented in gallery layout as well as list form. Species can be viewed/search by physical characteristics (color, size, similar looking), habitat and behavior (flight speed). The app allows [the] user to*

[322] The member noted that NSS's smart phone applications were supported by a grant by Singapore Government Information Development Authority (IDA) (people/civil society sector Infocomm adoption grant) and unspecified corporate sponsors (Email Correspondence 10/4/2012).

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keep a record of his sighting and email the sighting list. Sighting will automatically record date/time and GPS [global positioning system] coordinate if the device supports it. The device is designed to work off line and does not require mobile network" (E-correspondence between NSS Bird Group member and author, 10/4/2012).

After pilot testing, the proposed launch date for the applications is slated for May 2012 (E-correspondence 18/4/2012). The member-director noted the shared interest amongst different groups indicating that the, "butterfly, bird, plant and vertebrate study groups— would try to use the same software" (Interview 7/8/2011).

Table 6.8: **Degree of importance attached to the overall uses of ICTs in NSS's organizational-participatory-spatial practices**

ICT-linked area of use	high	moderate	low	none	n / a
strengthening internal activities	—	■	—	—	—
strengthening external activities	■	—	—	—	—
creating new spaces for public participation	■	—	—	—	—
providing tools for civic activism & mobilization	■	—	—	—	—
enabling greater geographic reach	■	—	—	—	—
increasing potential alliances	■	—	—	—	—

Source: Question #17, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia' (Hong Kong, Singapore, Taipei). The question was phrased as follows: "In your opinion how important are the overall uses of ICTs to your association in the following areas: [areas noted above in far left column] High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

They also suggested that, "once you've got a software that allows you to do this you could put in others. By and large the basic template could be transferable from one fauna to another." In the future using such applications in subgroups work and the possibilities of linking to NSS's 'Citizen Science initiative' efforts and the possibility of interfacing with its existing GIS mapping (e.g. Figure 6.7) were also noted by the member. In particular, the BG member involved with the 'app' suggested:

"Future enhancements will support synchronization of data and sighting records with a central database as part of NSS' Citizen Science initiative to involve the public in nature conservation initiatives […] We designed the apps such that they can be used for other flora and fauna as well as for other geographic region[s]. Links to online database, GIS, etc. are in the pipeline" (E-correspondence with NSS Bird Group member and author 10/4/2012).

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An array of ICT-linked tools is permitting NSS members (and interested publics) to remediate, archive and share (amongst members and with the public) data related to its diversity of interests. This includes linking grounded locations to spatial data at varying scales across the city state—from the site-specific perspective to a basic macro or city-region perspective (as with the Birdwatching Hotspot Map'), or through enabling portable/mobile access to taxonomical information for a variety of species across Singapore urban spaces using a smart phone application. Such an application also enables users to ground and track their species sightings using GPS coordinates. And in future the possibility of linking to online cloud databases and GIS. Indeed, the examples above suggest that NSS and its membership remains interested in continued experimentation with ICTs tools across a wide range of info-sociational practices. This is also supported in NSS's identification—as a survey response—with the relatively high importance given to assessing the overall uses of ICT across a range of areas—including enabling greater geographic reach as Table 6.8 indicates.

6.4 Singapore: case pair summaries for GDS and NSS

This section briefly re-examines the cases of GDS and NSS employing the troika of info-sociational ICT-linked practices: organizational, participatory and spatial to guide the discussion. The purpose is to develop an empirical base for inter-case and city-specific comparative analysis.

This case of Green Drinks Singapore (GDS), founded in 2007, provided an example of a relatively 'new kid on the block' as a civic-cyber formation in Singapore's civic environmental community. First, as a globally networked organization, GDS has been able to tie into existing actor-networks (and 'issue networks') of regional and global groups (and websites) in order to locally tailor (and 'translate' [Bach & Stark 2005]) an approach which matches its Singapore Founder's interests, skills and own evolving actor-network relations (and ICT capacities). The early construction of face-to-face links between GDS and Singapore's growing civic environmental community helped foster important network connections for both the Founder and for GDS event attendees. At the same time GDS's Founder actively invites other civic associations to give guest talks—shaping its 'issue network' (Marres 2006)—at its monthly events and sometimes provides support for their campaigns. In terms of ICTs practices, besides the intensive use of email, GDS is a co-evolving system design—a complex socio-technical 'assemblage'—that its Founder continues to experiment with and adapt, including the use of a blog/website as its main informational nexus (where news, features and key links related to future and past events and allied campaigns) can be found.

In addition, GDS has experimented with several social media platforms and recently experimented with live micro-blogging an event and commercial online news feeds (arguably as actor-network 'enrolment' and 'maintenance' devices). The GDS Founder suggested that people-to-people relations—as the events were primarily meant to encourage—were an essential part of the group's raison d'etre. Further, GDS's Founder—playing a role analogous to

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an obligatory passage point (OPP) in that organization—has also identified the personal time-consumption problems with ICT tools, particularly e-mail. This highlights the importance of further assessing how the 'civic work week' is shifting in relation to the 'cyber work week' (as Laguerre 2005 suggests) particularly in the context of small or 'one person show' civic environmental associations. More on these matters will be discussed in Chapter Eight.

Secondly, two points related to GDS's ICT-linked participatory practices are noteworthy. One is related to the organizational and participatory role that ICTs have played in clearly extending the networking reach of the GDS Founder as an individual—who also happens to devote time to an active business, alongside active environmental interests. Here social media platforms and more recently micro-blogging have enabled GDS to use multimodal media multiplication. Links to grounded events or actions also illustrate how GDS experiments with multiplexing. A single short message or announcement can therefore have mediated power when linked to other platforms (or to grounded events). In addition, the GDS case described how allied uses of ICTs could potentially serve as platforms and tools which could further assist in building and mediating new sorts of activism in Singapore and where GDS has linked-up with green blogging or heavily virtual groups such as the Green Corridor.org campaign. While GDS may be viewed as a quasi-elite business-oriented networking group, rather than a form or forum for activism—this view can be countered by the argument that in its short history GDS has organized civic political events (such as its 2011 Green Drinks Election Special) and aligned itself on local civic-cyber environmental issues and campaigns (e.g. Green Corridor). GDS's initiatives and affiliations have arguably helped in (re)shaping the 'green public sphere' (Yang & Calhoun 2007) in Singapore. This included advocating for greater environmental discourse in the public sphere and in Singapore electoral politics (i.e. 'Green Drinks Election Special 2011').

Thirdly, despite GDS's surface appearance of a non-partisan formation, its support of collaborative civic environmental causes in Singapore has 'plugged it' into to emergent 'issue' (Marres 2006) and locally oriented 'communities of practice' (Sassen 2004) revolving around land use and conservation issues—evident in the Green Corridor campaign. Such civic-cyber collaborations have broadened the connections and awareness between GDS members about grounded issues facing Singapore environmentalists—as the ICT-linked remediation of the WildSingapore talk illustrated. Another point relates to how ICTs have assisted GDS as enabling tools—whether as 'reinforcement emails'(Horton 2004) to solidify regional alliances with Green Drinks groups (such as the Kuala Lumpur partnership); or for affirming crucial local alliances amongst civic environmentalists in Singapore (such as the Green Roundtable meet-ups; or the moderated e-discussion group).

In contrast to GDS's relatively recent networked associational practices, the Nature Society (Singapore) (NSS), as a mainstay of Singapore's civic environmental community, has been characterized here as employing ICTs for 'solidifying and allied network linking.' This involved either solidifying its organizational uses of ICTs; or alternatively building and linking to new alliances with civic-cyber actor networks in Singapore. These will be discussed below.

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First, organizationally, over the years NSS has received the benefit of voluntary initiatives from several of its ICT savvy members ('obligatory passage points') who have helped the Society establish or experiment with a range of tools and platforms: from NSS's early websites and blogs; to more recent experiments with social media, an ICT-mediated maps and a current smart phone 'apps' pilot project initiated by the Bird Group. In some respects, not unlike GDS, these varied and ongoing uses of ICT-linked tools, platforms and experiments frequently augment or complement NSS's significant grounded work—illustrative of Bach and Stark's (2005) notion of 'permanently beta' associations in perpetual flux. Thus, the first NSS website in the late 1990s later would eventually become (metaphorically) 'website version 2.0' (in 2006); which in turn would migrate into NSS 'website version 3.0' (in 2010-11). Besides this fluidity—shaped in part by volunteers and the vicissitudes of changing ICTs—the migrating and amalgamation website story illustrated centripetal versus centrifugal tensions in ICT and organizational internal politics: between the capillary work of NSS's critical sub-groups whose scientific and project work has been the mainstay of the Society; and the needs for a coherent organizational structure, image and efficiencies.

Second, NSS's traditional practices of publicity (such as nature publications, studies and policy proposals) have become more accessible online in the public sphere. Contrastingly so too has the work of some of its members and allies who employ ICTs to campaign at the 'speed of light' employing social media and green blogging for example. In addition, NSS's nature forums continue to attract deliberations as digital 'communities of practice.' NSS's new website also provides a window on the organization and its accumulated 'civic intelligence' (Schuler 2001). Also demonstrating ICT-linked participatory alliances, the case of Bukit Brown exemplified the possibilities for 'speed of light' campaigning despite the imminent loss of a portion of a Singapore natural and cultural heritage.

Third, in relation to spatial practices the focus on alliances as (localized) 'communities of practices' demonstrated intersections with NSS's role with ICTs in the recent Green Corridor campaign—illustrate how physical and digital approaches can be interwoven both *within* a civic actor-network (i.e. NSS), but also *between* allied actor-networks. These relatively new civic environmental actor-network alliances in Singapore have coalesced around spatial issues by involving new publics and employing a mixed array of tactics—from online petitions; to targeted OPOL letter campaigns; to rapidly disseminating campaign information and position papers online; to employing social media to share information about grounded activities (from walks to creative writing workshops); as well as online peers' mediation of supporting campaign information (in blogs, image sharing and video sharing). Although NSS's involvement in direct forms of civic cyberactivism has arguably been limited, its actor-network linkages to emergent multiplexed allies and alliances (e.g. SOS Bukit Brown and Green Corridor.org) affirms that distinctly Singaporean forms of participatory digital activist alliances are demonstrably emerging amongst the City-State's environmentalists. In addition ICT-related spatial transformations have arguably involved an NSS partnered online GIS-supported bird and habitat hot spot map along with a GPS-linked bird identification guides as smart phone applications (at the beta stage at this writing).

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The NSS's website, its online forums and the social media platforms and spatial linked tools/platforms therefore appear to be serving as a complementary knowledge exchanges for structuring massive amounts of Singapore environmentally-related information from projects, initiatives and news—both for NSS members and for the general public alike. In the end, however, NSS has not forgotten its roots and rootedness in the importance of face-to-face and grounded actions and activities which connects its members and the public to nature.

Chapter Eight will build on the case narratives above by featuring a set of summary comparisons between the ICT-linked practices in Green Drinks Singapore and Nature Society (Singapore). In turn these comparisons will serve as a prelude to comparative analyses of the case pairs in relation the info-sociational framework; along with an overall review of the cases; a related set of critiques; and the cases in relation to their city-specific civic spaces. Before that, however, the next Chapter will discuss the cases of OURs and TEIA in Taipei.

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Chapter Seven. Case studies: experimental green networking & networked activism in Taipei

7.1 Introduction: coupled cases of civic-cyber environmentalism in Taipei

As with the Hong Kong and Singapore case pairs discussed above, the two Taipei civic environmental associations featured in this Chapter have been selected to illustrate civic associations that use ICTs of differing organizational ages or operational duration. In addition, both groups were selected because they a focus on civic environmentalist practices. As with the previous case pairs, the info-sociational model—particularly the focus on organizational, participatory and spatial ICT-linked practices and transformations—serves help frame the case studies found in this Chapter.

Three key points about the Taipei civic space which were identified in Chapter Four are worth bearing in mind before exploring the cases in further detail: first, the importance of the imprint on civic associational life during the post-authoritarian 'opening-up' in 1987 of politics and civil society, as a critical juncture in Taiwan. Second, largely since 1987, the rise of a 'binary polity'—or what Mattlin (2011) refers to as a 'politicized society'—has arguably continued to influence both formal and informal aspects of governance and civic environmentalism in Taiwan and Taipei. As much as civic associations can sometimes provide a 'thirdspace' (Soja 1996) away from the sometimes heated political divisions in Taiwanese society, this politicization cannot be easily dismissed or entirely ignored in relation to the civic space of Taipei. Third, the growing use of information communication technologies (ICTs) by civil society also applies to civic environmentalism—as Zheng (2011) and others' examples have noted; and as these two cases will explore further.

The narratives below therefore provide an empirical base for later identifying distinctions between and commonalities amongst the ICT-linked organizational, participatory and spatial practices of the Taiwan Environmental Information Association (TEIA) (founded in 2001); and the Taipei-based Organization of Urban REs (OURs) (founded in 1989). Such an empirical base also serves as a means for tiger city comparisons between civic environmental groups—including how their civic space storylines are shaping and being shaped by ICT-linked practices. In the sections that follow, the case of the more recently formed civic association, TEIA will be discussed; followed by the case of OURs, a longstanding local association with an interest in urban social justice and environmental issues.

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7.2 Taiwan Environmental Information Association's experimental green networking

> *"After many years [of] work, my thought is that even [if] we have better technology to exchange the documents to collaborate with each other, we also rely on vocal expression–face-to-face communication—very much, because information is explosive"*
> —Interview with a TEIA staffer (10/25/2010).

The Taiwan Environmental Information Association (TEIA) [台灣環境資訊協會] is an NGO that has—within a decade—come to play a prominent info-sociational role in Taiwan's environmental community, having its origins as a humble Chinese-language electronic newsletter and later a website. This case is based primarily on three separate (and lengthy) in-person interviews with a TEIA staffer in its offices in Taipei on April 7, 2009 and October 25, 2010; along with an interview with the TEIA General-Secretary and founder on October 28, 2010 at a public coffeehouse in Taipei; as well as information garnered from an online survey (of civic environmental groups Hong Kong, Singapore and Taipei) that was conducted for this investigation during the Summer of 2011.

The Taiwan Environmental Information Association (TEIA) was initiated to address serious gaps in governmental and media information about the environment (Interview with TEIA's founder/Secretary-General [herein, the 'founder'] 10/28/2010). According to TEIA's founder these public information gaps included too little, improper or last minute information on development projects, particularly from government agencies to the general public—"we do not receive the information," he argued (Interview 10/28/2010). He added that detailed information was especially needed at the concept stage of projects for public input.

Previous to launching TEIA, the founder noted his involvement with the Taiwan Ecological Conservation Alliance—a roundtable alliance of 20-30 groups which focused on discussing environmental issues (Interview 10/28/2010). Clearly this experience assisted in building his own personal networks which would serve as a base for the foundations of TEIA as a distinct civic environmental actor-network—and eventually its distributed form of digital networking.

The TEIA founder also noted that in the late 1990s the Internet in Taiwan although popular remained expensive. However, at that time he decided to start an e-newspaper to, "share information with the public to tell that what is happening," and aiming to address some of the environmental information gaps noted above. The purpose, he suggested was that, "people will pay attention to do something for themselves; to do something about the environment" (Interview 10/28/2010). Part of the plan, he suggested was to introduce cases of environmental issues and solutions in locales beyond Taiwan—such as Japan, the U.S.A. and England.

Putting these environmental and informational ideals and ideas into practice, TEIA issued its first online newsletter in April, 2000 (in what was to become its first of many daily editions); and a little more than a year later an informal association became an officially registered NGO (Interview 10/28/2010). TEIA's early e-newsletters gained popularity because they broke with the practice of disseminating information via paper publications or faxes apparently common at

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that time amongst the Taiwan environmentalist community. The crucial change that ICTs enabled, TEIA's founder suggested, was that while environmental groups that were once isolated were no longer so. He suggested, "maybe fifteen years ago they would face the problems by themselves" and he noted the examples of campaigns dealing with waste management and nuclear power where shared experiences with other groups outside of Taiwan were helpful (Interview 10/28/2010). Thus in employing ICTs civic environmental groups could network and potentially obtain (and share) information and build alliances by connecting locally (in Taiwan) and beyond. The founder also added that, knowledge-sharing, information exchange, and cooperation were three of the key goals of TEIA (Interview 10/28/2010).

These three goals can be compared to Bach and Stark's (2005: 41, 43) concept of "knowledge communities"—that is, "communities that use as recombinant and multiplicative logic of link, search, interact to sustain themselves and grow" (Ibid., 41) and a: "transactive memory system that shares domains of knowledge." Indeed it can be argued that from TEIA's humble beginnings in 2000, it has evolved into an informational nexus of importance for Taiwan's environmental community, and as a new media hub for public environmental information and knowledge. The exchange, remediation and 'translation' of knowledge has been one of been the means by which TEIA has grown as a non-profit organization.[323] This and other aspects of TEIA's ICT-linked practices as an environmental actor-network will be elaborated upon in the three sections that follow.

7.2.1 TEIA's organizational practices

According to a TEIA staffer, the organization devoted its focus in its early years on establishing a viable Internet news service and making its website a collaborative space for wider involvement (Interview with TEIA staffer 04/07/2009) evident in its attempts to involve staff and volunteers in environmental news gathering and to connect with the public on civic environmental issues. The TEIA website further provides a description of the organization:

> *"Taiwan Environmental Information Association (TEIA) is a non-profit and non-governmental organization located in Taipei, Taiwan. TEIA consists of a bunch of activists who have long devoted themselves to environmental protection and had the mission to build a path in the world where human[s] can live harmoniously with nature. TEIA has more than 20 full-time and part-time staff and hundreds of volunteers and interns to support its complex conservation works"* (TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010).

The website goes on to describe Taiwan's geography and biodiversity as well as the damage or threats that have occurred as a result of, "economic expansion, unintegrated policy [sic], and extremely dense human population" (Ibid.). It also identifies the difficult issue that: "Taiwan is not recognized as a 'country'; hence, no international environmental regulation includes

[323] Here translation is used both literally (as TEIA translates content in its electronic newsletter and website from other languages into Chinese for mass remediation) and figuratively (as is used in actor-network theory to refer to: "a location where negotiated meanings takes place" [Bach & Stark 2005: 45]).

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Taiwan and little international funding can be introduced." The choice of descriptors in this introduction combines ideals with pragmatics, by reiterating the mission alongside a brief organizational description. The underlying challenges that TEIA has faced in being a heavily digitally oriented organization—both by choice and by timing—were not identified in this description, but will more fully elaborated in this section and those that follow.

In describing the Taiwanese environmental situation the TEIA website's introduction adds: "Because Taiwan's government, corporations and NGOs don't make individual efforts to understand international trends and conform to the updated standards, the environment will degrade out of our control" (TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010). This concern about the need to understand and shared via remediated descriptions of international environmental trends was echoed in an interview with TEIA's founder as being a key reason for initially developing an organizational and digital hub that could reliably share information amongst environmentalists and interested citizens (Interview with TEIA founder 10/28/2010). This information hub function is part of two major goals of the TEIA: one focused on reinforcing the power of information through an environmental information network; and a second focused on raising public awareness of the importance of land use issues by implementing Environmental Trusts (for habitat protection).[324]

The first goal noted above is of particular interest here, because it directly relates to the importance of understanding the co-evolution of ICT practices and TEIA as a civic environmental association. Once again the TEIA website notes that 'since its beginning' this Chinese language website and information service has functioned in a number of ways. It lists these key activities:

> *"[To] provide environmental information including column articles, editorials, eco-activities bulletin, and daily news from Taiwan and over the world. Broadcast environmental information on the Centre's website [http://e-info.org.tw] which has [an] average [of] 12,000 browsers per day. [To] release e-paper through email which has more than 18,000 subscribers. [The] provision of the website as a free interaction platform for other NGOs in Taiwan"* (TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010).

The founder as Secretary-General for the Organization also works closely with the Vice-Secretary General who is also is responsible for the Environmental Trust Center. Structurally the TEIA includes the Information Centre and the Trust Foundation, along with a Division of Development and Resource Integration (Executive) group which addresses financial, public relationships, membership, donations, and administrative matters (Interview 10/28/2010). TEIA, as a registered non-profit retains 14 directors on its Associational board (including three trustees for audit purposes). Besides meeting quarterly, the Founder, acted like volunteers because they sometimes assisted in TEIA's initiatives (Interview 10/28/2010). How has this

[324] Identified in an English language description found on TEIA's website—available at: http://www.e-info.org.tw/node476. Last accessed 29 July 2010).

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organizational structure and an early embrace of information—central to its mission—shaped TEIA's ICT-mediated practices? More on this matter is discussed below.

7.2.1.1 From virtual beginnings to a grounded green portal

TEIA's core focus has remained on raising awareness through the dissemination of news and information about conservation, sustainability and eco-lifestyle issues. Indeed, TEIA's Founder suggested: "our association is like [mass] media, environmental media" (Interview 10/28/2010). Indeed TEIA's origins as a 'green new media' civic environmental actor-network dovetail with the early days of Internet popularity amongst Taiwan's civic associations. Interestingly the original TEIA organizational team—an editor, Internet engineer, translator, webmaster/financial person, land trust researcher—attempted to work entirely virtually, (separated and home-based) as a collaborative e-organization, according to the TEIA Founder (Interview 10/28/2010). This initial arrangement and experiment in 2001 only lasted for six months, however, due to home-based distractions and importantly internal communications issues which meant that: "we do not really discuss [in] real time" (Interview 10/28/2010). He argued that after this experience it was realized that: "we should work together and face-to-face with any problems we could discuss […] to allow the job to go smoothly" (Ibid.).

In 2001 TEIA began renting a house, signaling the end to the individual e-(net)working experiment. This has parallels to the example of Greeners Action in Hong Kong (cited by the staffer in the CA case); as well as Civic Exchange in Hong Kong—both of which attempted what might be termed 'virtual office 'arrangements for a short time in their early organizational life—but later changed in choosing to anchor themselves in designated spaces for their groups to work and meet together as a team. The implications of 'digital office' arrangements in the 'digital city' has been detailed in Laguerre's (2005) work which discusses the transformative role that ICTs are playing in project virtuality, workplaces, surveillance and the changed pace of work (Ibid., 66-96). For instance, he suggests:

> *"The digital office has multiple shapes, from the modern digitized type to the mainly virtual form. In some instances, it is a traditional office with virtual components and is being transformed or reinforced by IT [information technology], while in other cases it does not operate out of a central, formal workplace at all. Thus the digital office seldom displays a permanent shape because its configuration varies with participants and with time. In addition, its shape is protean because the virtual and nonvirtual components of the digital office are so integrated that people move from one the other without being aware that they are shifting their mode of operation"* (Laguerre 2006: 96).

Indeed, the multiplexing that Laguerre refers to (the 'virtual and nonvirtual components [that] are so integrated') continues to be observable in TEIA's activities even though its more comprehensive digital office experiment was abandoned in fairly short order in 2001 so as to improve face-to-face communications. With the rapid growth and early popularity of the e-newsletter service, other issues arose, such as the need to garner funds (Interview

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10/28/2010)—a perpetual problem for many civic environmental non-profits—and as this case reveals, an ongoing organizational issue for TEIA.

Table 7.1: **Degree of importance attached to various practices in TEIA's current work**

Practices	high	moderate	low	none	n / a
watchdog practices	■				
natural / built conservation		■			
information & education	■				
scientific research		■			
policy lobbying		■			
grassroots organizing			■		
civil society alliance-building			■		
government partnerships			■		
green / social enterprise			■		
business partnerships			■		

Source: Question #2, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia'. The question was phrased as follows: "How important are each of these practices in your association's current work and activities? High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

7.2.1.2 A team of civic environmental e-reporters

TEIA's e-mail or online newspaper remains central to its daily organizational rhythm, especially since its staff effectively double as online writers—with two core staff focused on layout, editing, emails and software issues (Interview 10/25/2010). According to the TEIA staffer responsible for this team (and the e-newspaper) TEIA has been serving as a hub for environmental news content submissions from NGOs, community groups and voluntary reporters across Taiwan (Ibid.). Besides an info-sociational approach—which focuses on organizational, participatory and spatial impacts—the fact that TEIAs daily e-news is circulated to 18,000 subscribers according to its website;[325] and has around 10-15,000 daily visits to its website; or that TEIA is treated as a newswire content provider by *Yahoo Taiwan* (Ibid.), suggests its impacts are identifiable through various metrics in the civic-cyber sphere. TEIA's Founder also suggested that its sizeable database of environmental articles was also very helpful to Taiwan's environmental community, including some 80,000 reports and articles (Interview 10/29/2010; Liu 2010: 2). In addition TEIA has also produced short weekly radio bulletins, organizes face-to-face forums and environmental-themed news talk shows (Interview 10/25/2010). More on the role of civic environmental reporting will be examined in the discussion of TEIA's ICT-linked participatory practices, below. As a civic environmental actor-network, TEIA can therefore be understood at least in its publicity-making capacity and hub-like organizational function as akin to an 'obligatory passage point' (Callon 1986: 205-224)—

[325] From the TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010.

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establishing itself since 2001 as a passage point for both receiving, synthesizing, translating, remediating and contextualizing environmental information amongst a wider network of civic environmentalists and citizens.[326]

In another respect, as a new media organization, TEIA has the capability of acting as an environmental watchdog organization—using both its website and the e-newspapers and directing its staffers or volunteer reporters—in order to highlight issues whether climate change, or local environmental issues in Taipei and Taiwan, as well as the campaigns of allied environmental groups. In this regard TEIA is neither strictly a new media group nor a traditional type of environmental organization. In addition, the role of TEIA's land trust—discussed further below—also suggests that it is not exclusively an online information hub. Some of these ideals and ideas may be reflected in TEIA's current priority practices as Table 7.1 indicates. This 'point in time' perspective (rather than a longitudinal study) suggests that TEIA has prioritized both watchdog practices and information and education in its work; but also considers nature/built conservation and scientific research (e.g. its coral reef project) of greater importance compared with other practices (at the time of the survey in 2011).

7.2.1.3 A 'permanently (beta)' labour of love

The TEIA staffer reported that it has chosen to supplement its limited donation revenues with ICT-linked contract work such as developing environmentally-oriented websites and eco-electronic newsletters (interview, 04/07/2009). Besides its internal website, that of the TEIA Trust and a special Earth Day website in 2002, a number of examples of this type of contract ICT-linked work—primarily environmentally-related—serves to illustrate of TEIA's involvement in projects for government (both City and Central) and other civic associations or foundations (from 2000-2005) (Table 7.3). In addition, as will be discussed under participatory practices, TEIA has provided pro bono assistance to small civic associations and community groups.

While one-time or short-term contracts can shift staff energies away from their core activist projects, they can also provide additional ICT and project management skills. The sometimes problematic financial situation for Taiwan environmental groups was portrayed in a 2010 story by Liu Li-jen (17 May, Taipei Times, 2), including the plight of TEIA. Liu (2010) profiled the situation with the Taiwan Environmental Protection Union (TEPU) and Green Party of Taiwan (GPT) along with TEIA. It was reported that, "despite having built one of the largest Mandarin-language environmental websites," and, "receiving awards almost every year, it [TEIA] still lacks money to pay employees' salaries this month" the Association Secretary-General reported (Ibid.). TEIA reports that retaining staff remains a difficulty because of burnout and sporadic funding—to the point that the Founder and Board of Directors have sometimes had to provide supplementary financial support personally (Interviews 04/07/2009 & 10/28/2010).

[326] Arguably this (re)mediation and contextualization of stories (whether originally written by TEIA's reporters and staffers, or reposted/translated by its staffers) has similarities to Scollon's (2008: 18) description of digital public discourse and texts as forms of 'mediated action.'

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Linked to the issue of resource limitations has been another challenge that faces many non-profit organizations: that of retaining their staffers. This was identified by TEIA's Founder as related to the time pressures (he noted staff working 10-12 hours per day with low salaries); working with (and needing to train) large numbers of volunteers (some young staff may have difficulties with volunteer management); and being committed to environmental issues as the work is not simply contract work (Interview 10/28/2010).

The interview with the Founder identified TEIA's need for (and sometimes difficulties retaining) a committed and idealistic staff ("tough staff" was his description) capable of working with large numbers of volunteers; coping with time pressures with the e-newsletter, reporting and a myriad of other projects and initiatives; as well as need for flexibility given the vicissitudes of funding, short term programs, and varied project demands (illustrated by the various contract

Table 7.2: **Duration of TEIA's uses of ICT tools or platforms [years]**

Use of ICT tools / platforms	11+ years	9-10 years	7-8 years	5-6 years	3-4 years	1-2 years	0-1 years	non use	unsure
social media page						■			
micro-blog						■			
active web site				■					
GIS map								■	
videos			■						
web logs (blogs)				■					
email discussion list					■				
web conferences				■					
e-newsletters	■								
SMS / phone alerts								■	
hosting e-petitions						■			
formatted e-letters	■								
online surveys or polls			■						
online forums	■								

Source: Question #4, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia.' The question was phrased as follows: "As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms? In 2001 or earlier; in 2001-02; in 2003-04; in 2005-06; in 2007-08; in 2009-10; in 2011; we do not use this ICT / or no longer use; not sure" (Sadoway 2011).

projects TEIA is involved with in Table 2, along with the Environmental Trust initiatives) (Interview 10/28/2010). To attract funders TEIA has developed a medium and long term action plan to identify its priority projects (including ongoing initiatives) to donors—this featured nine goals related to environmental information and education; six goals related to environmental trusts and conservation actions; and three goals related to environmental improvement in the Asian region.[327]

As with any organization, but perhaps more so with TEIA—because of its intensely virtual beginnings—ICTs practices appear to be being 'translated' in a pragmatic, yet experimental manner. Arguably, this has similarities to Bach and Stark's (2005:45) shift from 'decentralized'

[327] See: http://www.e-info.org.tw/node/836. Last accessed 22 April 2012.

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to 'distributed' network structures, illustrated by the links it has rapidly helped to build amongst civic environmental associations in Taiwan. And despite some of the resourcing limitations noted above, TEIA continues to experiment with ICTs.

For example, besides the early 'digital organization' experiment in 2001, TEIA has employed organizational (3G) smart phones in their office since 2008; has shifted from their own longstanding server, to a cloud-based server and non-profit software suite from a commercial service (Google); as well as utilizing commercial social media (Facebook), video sharing (YouTube); and photo sharing organizational (Flickr) accounts (Interviews 10/25/2010; 10/28/2010); and recently its website added a feed or link to a commercial micro-blogging service (Plurk). A profile the TEIA's use of a variety of ICT tools and platforms and their duration of use is shown in Table 7.2. With the increase in cloud-based applications and a server, the job of the webmaster has become more focused on network (rather than server) maintenance and on security issues (Interview 10/25/2010).

TEIA has also joined *Yahoo Taiwan's* web service portal for fundraising—apparently one of the only environmental associations in Taiwan to have done so at the time (Interview 10/28/2010). The Founder also noted that TEIA was apparently the first civic association in Taiwan to use Google's 'non-profit bundle' (free services available for civic associations). When asked how he knew they were the first civic group to use this bundle, he noted that they were made aware of this because in working with Google Taiwan's engineers address compatibility problems (English to Chinese) they were informed that they were the first civic association to employ these services (Interview 04/07/2009). While illustrative of TEIA's interest in experimentation with ICTs the shift from its own control over information (on servers) to a cloud-based system identifies concerns in other aspects of ICTs uses (such as social media) where civic associations appear to be relinquishing local control for the sake of cost, convenience and efficiency. The implications of such transformations are further discussed in Chapter Eight. In this regard the TEIA Founder noted: "Somehow, maybe we can say like [in] our Association the new technology is not the real problem or issue for us; but the real problem is how to manage the new technology," and he suggested the importance of their computer engineers to help them take advantage of the potential power of ICTs (Interview 10/28/2010).

Another key component—structured as an affiliated association is TEIA's Environmental Trust. The Founder indicated that TEIA is a member of the 'International Trust Alliance'–a UK-based group with around 60 member countries—and that through this groups they have built contacts in England, Japan and Korea and have shared cases about land trust initiatives elsewhere (Interview 10/28/2010). Related to this TEIA's website suggests that the Environmental Trust concept: "is an unfamiliar idea in Taiwan along with other conservation concepts."[328] Besides using TEIA's informational functions to promote the Trust a number of other approaches are identified:

> *"[The Environmental] Trust is one of [the] sustainable ways in managing and preserving natural resources; however, Taiwan has not yet established any kind of*

[328] TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010.

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Environmental Trust. Hence, many works below are being taken by TEIA to promote the establishment of the first Environmental Trust: holding Eco-Working Holiday[s] (2004-present) to enhance the dimension of volunteer's participation in conservation action and to raise the public awareness concerning habitat management. Regularly holding Environmental Trust conferences/workshops to popularize its concepts and generate discussion among the groups that are interested in the issue. Managing different habitats in Taiwan to initiate the Trust experience program. Current projects are run at an abandoned farm in the East Coast Mountainous Region, on two small islands on the west coast, and throughout several wetlands over Taiwan Island" (TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010).

Although distinct from its ICT-linked functions, TEIA's eco-tour initiatives (including working holidays), besides developing environmental awareness, also help to generate revenue for the Association. For example, the Founder noted that companies with corporate social responsibility programs linked up with TEIA's environmental initiatives to do environmental

Table 7.3: **Examples of TEIA's contracted ICT project activities (2000-2005)**

TEIA's ICT-linked project activity	Contracting Organization	Timeframe
website development	Taipei City Zoo (Foundation)	2005
information platform maintenance	Nantou Unique Biological Centre (biodiversity)	2005
forest health network notification system	Forestry Bureau (Central Government)	2005
land restoration monitoring & reporting system	Council for Economic Planning & Development (Central Government)	2005
national park information portal	Planning Agency, National Parks (Central Government)	2004
website planning / deployment	Institute of Architecture, Building Research Institute of Construction and Planning (Central Government)	2004
ecological engineering website planning	Public Works / Construction Commission, Executive Yuan (Central Government)	2004
website construction	National Parks Association	2003
website construction	ROC Cetacean Society	2002
website planning/consultation	Business Council for Sustainable Development (Taiwan)	2002
network planning	Ecotourism Society	2000
website planning	Nature Trail Society	2000

Source: http://www.e-info.org.tw/node/276. Last accessed 22 April 2012 [translated from original Chinese].

protection or restoration initiatives in wetlands and forests in various locales in Taiwan (Interview 10/28/2010). Besides working with businesses who may want to 'give back,' TEIA has organized hiking trips for disenabled individuals which included historical and ecological education components (Loa 2007: 2). More recently TEIA received targeted financial support for a coral reef survey and squid protection program announced in the summer of 2010 (*Taipei Times*, July 24, 2010). These varied initiatives illustrate TEIA's evolution as a civic-cyber association primarily focused on information networking about the environment to a group that has multiple interests.

Despite TEIA's obvious versatility and comfort with ICT practices in its day-to-day (net)works, in many ways face-to-face and voice communications have become increasingly important as

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information and activities have proliferated inside their organization. Staff are expected to check in by phone or in person for co-organizing; or if an outcome or result is needed (Interview 10/25/2010). For example, an individual staffer noted receiving 500-700 emails daily and suggested that unless a verbal confirmation was made, requests could not be acted upon:

> *"After many years [of] work, my thought is that even [if] we have better technology to exchange the documents to collaborate with each other, we also rely on vocal expression–face-to-face communication—very much, because information is explosive"* (Interview 10/25/2010).

The paradox, then about 'explosive' or potent information is its proliferative quality (literally the 'information explosion' which has accompanied the growth of ICTs) has created the effect of information entanglements, the info-glut or the problem of 'drowning in information.' Despite the info-glut and use of ICTs the TEIA staffer observed that despite having, "very convenient technology," that the association had in some respects returned to what he termed, "the original conversation style," especially in face-to-face situations (Interview 10/25/2010). In many ways TEIA's shift to increasingly becoming a civic environmental association with grounded activities (e.g. ecotourism, working holidays, trail walking initiatives) reflects its vision for combining information with environmental issues—including through its Environmental Trust Foundation. This hybrid arrangement is also worth noting in later discussions about the co-mingling and co-evolution of human/social organizational needs in conjunction with an array of technological tools—and as expressed in the transformations underway in some civic associations as the info-sociational approach postulates.

In another respect, TEIA's work can be seen as a type of environmental 'issues network' along the lines of Marres (2005: 13) who sees ICTs as: "active *mediators* of civil society practices." That is, ICTs enable 'issues splicing' where civic associations connect to a mixture of issues and alliances who share these ideals or ideas. In TEIA's case environmental issues are the root of how it employs ICTs to frame and shape issue networks, including participatory and spatial actor-networks, as the next two sections will discuss.

7.2.2 TEIA's participatory practices

This section focuses on two of TEIA's ICT-linked participatory practices: first, online civic environmental journalism and digital e-news publishing; and second, how TEIA's integrated activist ideals shape its often challenging work. Together these two areas cover aspects of ICT-linked public sphere reconfiguration and civic environmental cyberactivism.

7.2.2.1 Participatory environmental mediation in the public cybersphere

TEIA's web-based work is centred upon a freely accessible news platform—unique because it aggregates submissions from approximately fifty environmental NGOs in Taiwan, from mainstream media and online news portals (e.g. the commercial service 'Yam')—as well as from trained citizen-reporters and editors (Interview 04/07/2009). TEIA relies upon a volunteer network of community-based reporters and editors and since 2006 the Association has been

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involved in organizing camps to mentor and train residents in news reporting and writing skills (Interview with staffer 04/07/2009) (also noted in Kuang 2009: 104).

Notably TEIA tries to encourage people to write what they see as important—as public or civic reporters—and it provides them with an website account and encourages these volunteers to self-register for 'YouTube' accounts; as well as providing a basic training program for website, article layouts and photography familiarization (Interviews 10/25/2010 and 10/28/2010). In addition a large number of on-duty volunteer editors assist in collecting, synthesizing, tagging and posting environmental news from mainstream media and portals, along with the information provided from civic environmental groups (Interview 10/25/2010). In some respects the e-newspaper effort requires the logistics of publishing a daily newspaper—along with the accompanying stresses—and TEIA project staff from other areas are expected to assist in order to ensure that the daily content is ready for e-distribution.[329] E-newspaper stories are also posted on the TEIA website (e.g. Figure 7.1).

TEIA's work has also arguably been unique because its daily coverage not only includes environmental and conservation issues in Taiwan, but also globally. This focus ties back to the previous point that TEIA's Founder identified, namely: the importance of needing to examine non-local cases and experiences and translate, collate and disseminate these amongst readers or viewers. Arguably the digital e-newsletter circulated to 18,000 email addresses (or viewed by 12,000 visitors on the website) as a daily 'new media' publicity practice is related to Castells' (2008) conceptualization of the 'new public sphere.' In particular this relates to the World Wide aspect of the Web. Castells claims that: the global public sphere is built around the media communication system and Internet networks, particularly in the social spaces of Web 2.0…" (2008: 90). And critically, he suggests: "the public sphere is not just the media or the socio-spatial sites of public interaction. It is the cultural/informational repository of the ideas and projects that feed public debate. It is through the public sphere that diverse forms of civil society enact this public debate, ultimately influencing the decisions of the state" (Ibid., 79). TEIA's ideals and ideas are in a sense influenced by the (sub)culture of civic life in Taipei and Taiwan. That is, these civic environmental actor-network norms shape how TEIA frames and acts as an 'obligatory passage point' for remediating environmental information about Taiwan, Asia and the globe, to interested viewers or readers. This is therefore illustrative of Castells' (2008) conception of a 'new public sphere' in that it involves civil society, ICTs and g/local issues.

[329] It was noted by a TEIA staffer that two colleagues were primarily responsible for the overall editing and digital compilation of the submission from volunteer reporters and editors. Other TEIA staff members need to be trained in Frontpage, digital editing and so forth (Interview 10/25/2010).

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Figure 7.1: **A screenshot of TEIA's e-news home page website and portal.**
Source: Taiwan Environmental Information Association homepage, http://e-info.org.tw/. Last accessed 29 November 2011.

7.2.2.3 Integrating and integrated civic activism

Besides environmental (e)media being a core organizing principle and organizational hub, TEIA taps into the participatory aspects of civic-cyber environmentalism in two respects. First, as an

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intermediary organization TEIA has supported grassroots local and small associations—with ICT assistance and empowerment—discussed as a form of associational alliance formation in the next section. In this respect TEIA has helped to integrate small or heavily under-resourced civic associations. Second, TEIA's e-newsletter has helped in shaping an integrated environmental issues focused media platform. Thus TEIA's role with both grassroots groups and peer associations reflects Pickerill's (2003: 171) findings that ICTs can strengthen traditional networks and extend activist tactics. In terms of cyberactivism TEIA supports many allied civic environmental efforts its coverage and remediation. For example, the author attended an energy forum coordinated by the Taiwan Environmental Protection Union NGO symposium on energy issues in Spring 2009 in which e-reporters from TEIA were present and covering the event (and which appeared to be largely ignored by mainstream media). Further, TEIA has supported e-petitions on issues which it has covered in its e-news—particularly the 'Save the Sousa' (dolphin) campaign and the land trust issue (Interview 10/28/2010). TEIA's Founder suggested that their Association has continued to push the government to improve transparency by posting information on their websites. In this respect, TEIA has also received requests (by email and telephone) from individuals asking for assistance on issues such as agricultural land expropriation in rural and peri-urban areas prone to speculative or 'special interest group' pressures (Interview 10/28/2010).

Table 7.4: **Degree of importance attached to the overall uses of ICTs in TEIA's organizational-participatory-spatial practices**

ICT-linked area of use	high	moderate	low	none	n / a
strengthening internal activities	■	___	___	___	___
strengthening external activities	■	___	___	___	___
creating new spaces for public participation	■	___	___	___	___
providing tools for civic activism & mobilization	■	___	___	___	___
enabling greater geographic reach	■	___	___	___	___
increasing potential alliances	■	___	___	___	___

Source: Question #17, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia' (Hong Kong, Singapore, Taipei). The question was phrased as follows: "In your opinion how important are the overall uses of ICTs to your association in the following areas: [areas noted above ir far left column] High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable." (Sadoway 2011).

Finally, TEIA's Founder takes a broad or holistic perspective on environmental issues suggesting that they needed to be concerned about connected issues—such as women's issues, labour issues, social welfare, workers, aboriginal peoples, disenabled peoples, and public health concerns (Interview 10/28/2010; Loa 2007). He also noted that he asked his staff to strive to

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link with other issues and groups. More on these links and alliances both local and global will be discussed in the section that follows.

7.2.3 TEIA's spatial practices

As with other digital practices, TEIA reports that its uses of ICTs for spatial purposes is of relatively high importance (i.e. enabling greater geographic reach and increasing potential alliances) as indicated in Table 7.4. Although one could argue that this finding suggests TEIA does not differentiate between or prioritize its ICT practices, the high importance it attaches to a wide array of practices also underlines the Association's digital engagement. Two examples of how ICT-linked spatial practices are evident in TEIA's work are further discussed in this section. This includes: first, TEIA's support to allied civic associations; second, TEIA supplementing its Taiwan environmental news focus with global environmental coverage of cases and events as well as its TEIA's grounded environmental activities—reminding us of the importance of going beyond cyber environmental activism to local on-the-ground efforts.

7.2.3.1 ICT-linked connections to local civic and global alliances

Since 2010, TEIA has supported 30-40 smaller civic groups (in Taipei and Taiwan) by assisting with website development and hosting (Ibid.). At the time of the interview TEIA's Founder noted that they assisted these smaller, often under-resourced civic organizations by providing them with: website hosting services; basic webmaster services—such as advising them with posting content and maintaining their websites; as well as using open source software and Drupal (Interview 10/28/2010). TEIA's actor-networking has therefore included ICT-linked knowledge transfers and empowering other civic associations through ICT assistance—although this assistance will clearly face some of the constraints noted earlier such as TEIA's sometimes unstable financial situation and its capacity for core staff to work with volunteers (and volunteer organizations) as well as by changing technologies and importantly its own ICT management skills. In this respect TEIA's Founder noted how problems can arise with the departure of "excellent [ICT] engineers" causing the Association with new challenges (Interview 10/28/2010). This once again brings to mind King's (2006: 51) notion of 'supernodes'–applied here in the context of ICT administrative hierarchies and dependencies. And this begs the question about the extent to which civic environmental associations are considering the legacies and ease of learning or knowledge transfer in relation to their ICT-related systems.

According to the TEIA Founder the Association has also broadened its e-news coverage (and its staff and readers' horizons) to feature social and environmental justice issues including support for the women's, labour, public health, indigenous peoples, and social welfare movements or associations (Interview 10/28/2010).[330] TEIA has also apparently reached out to global

[330] For example, TEIA helped organize outdoor hiking trips focusing on history and ecology issues and at the same time invited, "mentally and physically challenged," individuals to join these adventures (Loa 2007). TEIA also organized volunteer eco-working holidays—reportedly

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environmental groups, such as linking with the Earth Day Network, and green groups in Japan, the U.S., U.K., and Ireland, for example (Interview 04/07/2009); as well as through its Land Trust Initiative and related membership in the 'International Trust Alliance.' These examples illustrate how TEIA's new media role has enabled it to shape new 'communities of practice'—along the lines of Sassen's (2004) suggestion about how ICTs can enable new civic alliances and solidarities. In the example of TEIA this is done in two ways. First, this involves connecting with these groups to include their information in its e-newsletters; and secondly, actively networking or maintaining ties with these groups (whether in Taiwan, or at the global scale). Importantly the raison d'être of TEIA should not be forgotten here as well, that is the need to share and mediate information about environmental issues, both local in scope, but also global in scale. The next section takes up such ICT-linked spatial practices in TEIA's work.

7.2.3.2 Sharing g/local green information

Along with TEIA's digital news editorial team providing summaries of environmental news stories from global media, the Founder noted (Interview 10/28/2010) that the Association had sent e-reporters overseas to cover 'global environmental events.' This is arguably illustrative of Sassen's (2004, 2005) observations that affordable ICTs might be enabling powerful new scalar transformations. For example, TEIA was apparently the only 'media organization' in Taiwan to have a reporter stationed in Bali during the United Nations Framework Convention on Climate Change (UNFCC-COP) conference in 2007 (Interview 04/07/2009)). At the time of the conference the e-reporter besides covering the issue of climate change policy making (and the implications for Taiwan) for TEIA's media function, also networked with other NGOs at the conference—an example of g/local associational alliance building.[331] This underlines the importance of how individuals both constitute and shape civic environmental actor-networks. As Keck (2004: 46) suggests, "the actors in these settings are neither abstract, nor interchangeable; they are situated individuals whose networks of individual and institutional linkages categorize them in others' eyes, and are constitutive of their self understandings, jointly with their ideas and interests."

TEIA also has the ability to assign staff or volunteer reporters to cover issues that mainstream media would otherwise bypass, as the earlier example of the 2009 conference which the author attended (the Founder mentioned bioengineering, renewable energy and bird migration issues, as examples) (Interview 04/07/2009). Besides this type of multiplexed coverage—that is on-the-ground reporting of events alongside ICT-mediated stories—TEIA's Founder noted that global issues have long been of importance in its environmental news coverage. This content was sourced from various global locations and he cited the example of TEIA's coverage of forest issues and water issues in South Africa (Interview 04/07/2009).

involving over 1000 volunteers since 2004. These combine work and education on ecological projects—such as invasive species removal, coral reef protection, or community/cultural restoration projects (Wu 2009).

[331] Notably such coverage took place despite Taiwan's informal participation in the conference, given that it is largely isolated from United Nation's processes including the United Nations Framework Convention on Climate Change. In part this isolation may explain the lack of interest on the part of mainstream media on covering international environmental issues in Taipei and Taiwan.

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TEIA's website discusses some of its global efforts, and illustrates that despite socio-political differences, people with a passion for our global commons and shared environment can work together in overcoming problems. Here again we see Sassen's (2004) point about the potential shift in consciousness raising linked to scalar shifts. For example, it is noted on TEIA's website that:

> *"Taiwan affects others and is affected by actions of others in society and environment. Hence, TEIA sincerely: attends international environmental forums in other areas including: South Africa, Czech Republic, Venezuela, Pakistan, Mongolia, Bali [Indonesia], etc. […] Annually holds events with the environmental NGOs from Taiwan's closest and powerful neighbor—Mainland China"* (TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010).

The examples noted above have illustrated how TEIA has combined its alternative environmental media networking functions, as well as its activist ideals and ideas, to proactively 'become the media'—to attempt to redress the structural or political inequities sometimes shaping media politics and how environmental issues are communicated.

Perhaps more importantly TEIA's green new media experimentation has also increasingly involved linkages to its own local environmental projects on the ground in Taipei and Taiwan. For example, TEIA's partner Environmental Trust Fund and Trust Centre undertakes on-the-ground environmental projects, and it is a member of the 'International Trust Alliance.'[332] TEIA's website indicates that it, "[i]nteracts with organizations in UK and Japan to share experiences of the Eco-Working Holiday to learn more about existing cases of [the] Environmental Trust by actually visiting first hand and joining in the activities."[333] Since 2004 TEIA reports involving over 1000 volunteers during these 'holidays' in undertaking habitat clean-ups, restoration or protection activities all around Taiwan—and TEIA has developed a online blog to share stories about these activities (Figure 7.2) (also see Wu 2009: 2).[334] In addition, working with allied civic associations in 2010, TEIA employed the 'Land Trust' concept with others in a coalition as a platform to promote the purchase of a threatened wetlands habitat near Kuokuang, Southern Taiwan (Interview 10/29/2010; Loa, 2010).

To reiterate, as a decade old organization, TEIA has intentionally shifted away from being a fully virtual or digital organizational model to a group that increasingly is involved in grounded practices such as TEIA's eco-working holidays and its efforts to promote its Land Trust

[332] This is a UK-based group with member organizations from 60 countries. TEIA also retains contacts with groups and shares cases on land trusts initiatives underway in England, Japan and Korea. In addition TEIA has been involved in a forest trust in Taidong, the Penghu Islands and a wetland trust in Tainan-Shihu (Interview 10/29/2010).

[333] TEIA website, http://www.e-info.org.tw/node476. Last accessed 29 July 2010.

[334] See: http://ecowh.blogspot.com/. Last accessed 22 April 2012.

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***Figure 7.2*: A screenshot of a blog report on TEIA's 'eco-working holiday' and environmental initiatives.** Available at: http://ecowh.blogspot.com/. Last accessed 22 April 2012.

Foundation. The implications of this shift from virtual to grounded politics are interesting for civic associations in general; and will be taken up further in the overall analysis in Chapter Eight. Despite the vicissitudes of variable funding TEIA has managed to serve as an important environmental information hub—a key civic environmental actor-network—particularly as ICT uses were taking-off amongst civic environmentalists and the general public. While the legacy of this cumulative archive of information—another example of Schuler's (2002) 'civic intelligence'—remains unclear, what is certain is that TEIA has served to strengthen informatior openness and sharing in Taipei and Taiwan (particularly amongst civic environmental groups). Furthermore it has supported a number of less advantaged or endowed civic associations helping equip them with ICT capacities. TEIA's increasingly diversified activities—moving beyond its core focus on environmental information exchange—reflects not only a change in its organizational culture, but also an interest (and hope) in achieving a number of its original ideals and ideas for further environmental causes on the ground.

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7.3 Organization of Urban REs' (OURs') networked activism

"We want people to see the bigger and deeper problems in the Taipei basin. So its boundaries are natural boundaries, you can see the mountains, you can see the river. You have to face the fact Taipei is a basin…"
–OURs staffer (Interview 10/27/2010).

At the end of Taiwan's 'Martial Law Period' (1949-87) various citizens' movements mobilized against the legacy of an authoritarian state system on a number of fronts including political, socio-economic and environmental (Mattlin 2011). In this formative era for civic associational life in Taiwan and Taipei, the non-profit organization, OURs—the '*Organization of Urban Re-s: re-design, re-plan, re-build, re-view and re-volution*' [都市改革組織]—emerged as a key civic group with a focus on urban planning reforms, participatory community design and grassroots empowerment.[335]

Founded in 1989 (and formally incorporated in 1992) in Taipei by a group of design academics and professionals, OURs has long connected citizen-residents with professional designers—often employing participatory workshop formats to empower citizens in addressing land use issues and threats facing their communities.[336] OURs foundations were initially shaped during a mass protest in the summer of 1989 focusing on housing rights, poverty and citizen displacement issues. This campaign dubbed the "Snails-without Shells" movement (August 26, 1989) involved a mass 'sleep in' demonstration on Chung Hsiao East Road, Taipei (Ng 2007: 366; OURs: 2008).[337] This event subsequently led to the creation of OURs and its longstanding focus on urban spatial policies and their impacts on communities (OURs 2008; OURs website, http://www.ours.org.tw/about/origin. Last accessed 23 April 2012).[338]

As OURs formalized its organization, its early activities focused on the fight for urban spatial rights and reforms to better the lives of low income, elderly and disenabled groups in Taiwan's cities, including Taipei.[339] In the early 1990s, for instance, this involved a focus on reviewing and critiquing city plans, policies and laws and proposing alternatives to Taiwan's central

[335] See: OURs (2008) and OURs website: http://www.ours.org.tw/about. Last accessed 1 December 2011.

[336] OURs was formally incorporated as a non-profit organization in Taiwan in March 1992 (OURs website, http://www.ours.org.tw/about. Last accessed 25 April 2012). An English-language powerpoint presentation / pamphlet (OURs 2008) provides a visual and textual overview of OURs early history and its ongoing activities. Available at: http://www.ours.org.tw/about. Last accessed 25 April 2012.

[337] Such movements and socio-political changes noted in OURs organizational literature has identified: the 1985 banking crisis (Tenth-Trust Bank); 1986 De-prohibition of political parties; 1986 establishment of the Democratic Progressive Party; 1987 Rescinding of Temporary/emergency Provisions (Martial law); 1988 De-prohibition of newspapers; 1988 Farmer's Movement; 1990 'White Lily' Student Movement for political reforms (OURs 2008: 4-5). Also see the work of Mattlin 2011 for more extensive details and analysis of the significance of this period in Taiwan politics, including for civic life.

[338] For example Ng (2007: 366) notes that the 'Snails without Shells' movement was also termed "Citizen Solidarity against Urban Speculation," in a protest against high housing prices and property speculation. She also notes that the event organized by primary school teachers with the support of architects and planning professionals resulted in the creation of OURs and its sister association, the Tsuei Ma Ma Housing and Community Service Association (TMM).

[339] OURs website, available at: http://www.ours.org.tw/about/origin. Last accessed 23 April 2012.

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government-linked laws—which have been highly influential in Taiwan's metropolitan areas like Taipei—as well as city-level planning reforms (typically development or neighbourhood specific contestations).[340]

Working closely with communities to put forth alternative plans and lobbying for amendments to laws and processes—OURs ongoing work has involved working with disempowered residents facing forced demolitions; and fueling community movements, by assisting them in learning about legal issues and putting pressure on governments.[341] More recently—as is discussed below—OURs has had a focus on a wide range of urban environmental issues including 'conflicts of economy/ecology' (Interviews 4/2/2009; 10/27/2010; 8/24/2011; OURs 2008: 12). Understanding OURs genesis and history—as a civic association stemming from a movement—sets the stage for better understanding its ongoing formation as an 'issue-' and 'knowledge'-linked actor-network (Bach & Stark 2005; Marres 2006). This in turn supports an info-sociational approach to analyzing the ties between OURs' organizational behavior and its ICT practices.

This case study draws upon three separate interviews with an OURs staffer (and on two occasions accompanied by the OURs Chair) twice in OURs offices in Taipei on April 2, 2009 and October 27, 2010; along with a telephone interview on August 24, 2011; as well information garnered from an online survey (of civic environmental groups Hong Kong, Singapore and Taipei) that was conducted for this investigation during the Summer of 2011. Two of the interviews engaged a Chinese-English translator in an advisory capacity, however, the bulk of the interviews were conducted in English. In the telephone interview an OURs staffer served as both translator for the OURs chair; and a respondent. The three sections that follow examine the extent to which ICT-linked organizational, participatory and spatial practices may (or may not be) transforming OURs as it co-evolves with ICTs.

7.3.1 OURs' organizational practices

How OURs' is interweaving its uses of ICTs in its organization practices will be the focus of this section. The discussion below examines two aspects of OURs' ICT-linked organizational practices. The first employs Marres' (2006) idea of 'issue networks' to understand how OUR's ICT-linked tools and functions while geared towards popular public discourse, are also necessarily limited by its choice to prioritize face-to-face and on the ground community work with disempowered communities (such as design workshops and local meetings), rather than spending time on online or digital projects. The second aspect, will involve examining OURs organizational functions using Bach and Stark's (2005) concept of 'knowledge communities' derived from actor-network theory—in order to examine how and why ICTs are sometimes

[340] See Ng (1999; 2007) and Huang (2005).

[341] A large number of examples—such as the Beitou Rocks community protest against construction on an environmentally vulnerable hillside (1993); Shilin Chihshanyen community's four year fight against a gas station development (1993); Qinqcheng Community against a rezoning plan (1994); and so forth—were available on the OURs website, available at: http://www.ours.org.tw/about/origin. Last accessed 23 April 2012

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being employed for complementing OURs work. The third aspect, discussed here, examines the implications of OURs work in relation to changing organizations in the global digital city, following Laguerre's work (2005).

7.3.1.1 Civic bridging 'issues networks' between citizens and professionals

The news articles, blog posts, links, special features and historical information found on the OURs website (2012) illustrates an underlying emphasis on priorities such as 'community participation' and 'participatory planning and design practices' and grassroots democracy.[342] The website also identifies how OURs has long aimed to serve as 'a bridge' between communities and design professionals, advancing community-based planning concepts since the 1990s—including attempting to shift the Taipei City Government's 'top-down' mode of urban planning, to a more 'community-based,' participatory approach.[343] Such concerns still remain an issue in Taiwan's urban areas. For example, the current and dramatic case in March 2012 of a housing demolition in Taipei's Shilin district—featured on the OURs' website—illustrates the ongoing difficulty that some Taipei residents continue to face in protecting their housing rights; the need for ongoing legal reforms to urban planning laws; and moreover, the issue of long-term, transparent public consultation about urban planning issues in Taiwan. This particular issue is further addressed under ICT-linked 'spatial practices'—but it illustrates how situational events shape OURs longstanding organizational priorities as well as how ICTs can be very rapidly deployed when such events are connected to OURs' frame of analysis and 'issue network' (i.e. its focus on community-based planning).

Marres (2006: 15), for instance, suggests that the 'issue network,' "directs our attention to antagonistic configurations of actors from the governmental, non-governmental, and for-profit sectors, and the contestation over issue framings that occurs in them." OURs' ICT practices to some degree demonstrate their counterframing of spatial issues. Here it is also worth further identifying the ideals and ideas that shape OURs issue focus in order to understand how these influence its ICTs-linked issue framing. For instance, the OURs website identifies three key 'beliefs and principles'[344] of importance to the organization:

- *Spontaneous organization.* With shared values and common goals, our members are spontaneously organized. The funding is basically from donations of general citizens and professionals, and also from contract work for public agencies;

[342] Drawn from translated extracts on the OURs website, available at: http://www.ours.org.tw/about/origin, accessed 23 April 2012 as well as news and other features on the main website: http://www.ours.org.tw/. Last accessed 23 April 2012.

[343] Drawn from translated extracts on the OURs website, available at: http://www.ours.org.tw/about/origin, accessed 23 April 2012. Also see work by Huang (2005: 25) on the experimentation in 1996 by the Taipei City Government when its Urban Development Bureau began to experiment with institutionalizing 'collaborative planning' approaches, which featured Neighbourhood Plans. The approach provided budgets (approximately $10-20,000USD) to communities and typically design scholars/professionals from universities to, "propose plans for improving community spaces through a participatory process" (Ibid.). She suggests that the approach, "created an interface for the activists, professionals and community residents to work together, brainstorming, visioning and controlling the possible future living environment" and contrasts this with the traditional mode of development where construction projects, "were decided by the bureaucrats and political negotiation between the government and the councilors, which often didn't involve the public at all" (Ibid.).

[344] The three bullet points below are identified on OURs website, available at: http://www.ours.org.tw/about/. Last accessed 23 April 2012.

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- *Community based reform actions.* We are willing to participate and help any community-action promoted by a group or individual. We hope to actively raise the level of reform and to promote urban policy changes in a collective way;
- *Union between professionals and citizens.* To break down professional division of labor, and to learn from citizens, we seek to provide a context for a union between professionals and citizens, where mutual learning and support [can] flourish.

With its continued emphasis on community-based design approaches—evident in the listing above—a key interest of OURs is linking citizen groups or communities facing difficulties to its urban and environmental planners or designers and community professionals (particularly OURs staffers and members of its Board of Directors).[345] In addition, a set associational activities identified in OURs' online synopsis of its work provides further insights into how its issue networking practices influence the role of ICTs. Seven of these activities which OURs identifies,[346] are:

- supervision and promotion of urban policy;
- housing/spatial rights and community empowerment process;
- bridging citizens and professions;
- spatial planning education (e.g. landscape design workshops);
- conducting urban forums (e.g. knowledge exchange and policy explorations);
- promoting interaction between communities;
- project planning / city-regional planning.

In an interview with an OURs staffer it was noted that the types of activities listed above were typically organized into 'projects' and 'issues'—the former being research or planning projects for government (i.e. agency contracts); and the latter being work with NGOs or communities (i.e. advocacy and community empowerment projects). Notably, this has similarities to the funding arrangements identified previously in the TEIA case with its attempt to balance long-term environmental issues and situational activism, with the need for associational revenues (Interview 10/28/2010). The activity priorities of OURs are also identifiable in Table 7.5.

The 'issue-network' that Marres (2006) describes therefore appears to align more with OUR's socio-political and environmental activist activities (some of which have been noted above) rather than its administrative or revenue generating projects. For example, rather than focusing on what she calls 'amorphous' technical networks or social networks, Marres suggests (2006: 9-11) the importance of examining how issues are *framed and formatted*, particularly amongst affinity groups as a way of understanding civic associations' ICT-linked practices. An 'issue network' perspective suggests that OUR's ICT practices can be understood as being at the

[345] For example the various types of Board member skills, professions or specialties listed on the OURs website included: community participation, community-building, architecture, urban planning, urban design, landscape design, art, environmental law, community design, amongst others. OURs website, available at: http://www.ours.org.tw/about/members/all. Last accessed 23 April 2012.

[346] Noted in OURs (2008: 18-27). Also see: OURs website, available at: http://www.ours.org.tw/about/origin. Last accessed 25 April 2012.

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intersection of its staff and directors' framing/formatting of issues (including OURs' seminal ideals and ideas about community empowerment); and perhaps more importantly the issue network can be understood at the interface points between OURs and the many communities it works with (and how they in turn frame and reshape issues). These twin influences are worth keeping in mind in the remainder of the discussion.

Table 7.5: **Degree of importance attached to various practices in OURs' current work**

Practices	high	moderate	low	none	n / a
watchdog practices	■				
natural / built conservation	■				
information & education	■				
scientific research		■			
policy lobbying	■				
grassroots organizing	■				
civil society alliance-building	■				
government partnerships	■				
green / social enterprise		■			
business partnerships			■		

Source: Question #2, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia'. The question was phrased as follows: "How important are each of these practices in your association's current work and activities? High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

7.3.1.2 'Face-to-face' vs. 'face-to *Facebook*'

OURs 'classic' approach to civic activism and engagement has involved organizing multi-day face-to-face participatory design workshops that connect local residents to research and generates counter-plans—often in response to government (re)development plans (Interview 4/2/2009). For example, OURs emphasis on participatory design workshop techniques—with maps, models, and people gathering discussing and debate and 'getting actively involved' in the visualization and ideas generation processes—have been identified in interviews with OURs as well as in the content on its website and it commercial social media platform (Facebook 'fan club for OURs') (Interviews 4/2/2009; 10/27/2010; 8/24/2011).[347]

Civic environmental issues are also discussed in OURs longstanding tradition of organized community forums. An OURs staffer identified how these were typically face-to-face events, but have also been multiplexed or interwoven with ICT uses—giving the example of YouTube for recording extracts from such events as well as their on/offline experiment Burning Map Network (Interview 10/27/2010). This fits into what has been dubbed a 'face-to-face, versus face-to-Facebook' continuum—suggested earlier in the info-sociational frame as way to

[347] Link provided by OURs for their 'Facebook fan club': http://www.facebook.com/messages/?action=read&tid=id.208486335870883#!/ourstw. Last accessed 5 Sept 2011.

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understand physical and virtual practice tradeoffs, but also their complementarities. Bach and Stark's (2005) approach to understanding 'the new geographies of association,' similarly identifies the 'liminal role' of civic associations as a technospatial blurring involving, "the mix of face-to-face and virtual interactions" as "contiguous experiences" (Bach and Stark 2005: 49) or what have been termed 'multiplexing' in this investigation. This involves personal media tools and platforms being linked to broader socio-political causes or activist events, as examples in OURs will demonstrate for mobilization (i.e. 'the *personal* ICT media becomes *political* ICT media').

Table 7.6: **Duration of OURs' uses of ICT tools or platforms [years]**

Use of ICT tools / platforms	11+ years	9-10 years	7-8 years	5-6 years	3-4 years	1-2 years	0-1 years	non use	unsure
social media page				■					
micro-blog							■		
active web site							■		
GIS map							■		
videos	■								
web logs (blogs)	■								
email discussion list	■								
web conferences								■	
e-newsletters								■	
SMS / phone alerts									■
hosting e-petitions				■					
formatted e-letters									■
online surveys or polls				■					
online forums								■	

Source: Question #4, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia.' The question was phrased as follows: "As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms? In 2001 or earlier; in 2001-02; in 2003-04; in 2005-06; in 2007-08; in 2009-10; in 2011; we do not use this ICT / or no longer use; not sure" (Sadoway 2011).

This 'contiguity' perhaps can help in understanding why although OURs emphasis remains on face-to-face events, creative activism, and public meetings, it has continued to feel compelled to adopt ICTs for its varied needs. Indeed, at the time of the interview OURs reported having utilized email for over a decade; a news blog (website feature) and social media (Facebook) for approximately 5 years; and YouTube in the past 2-3 years to: "record some issues on the street in the community" (Interview 10/27/2010). OURs also uses ICTs for internal organizing and logistical uses, such as cloud-based survey software for handling event-related mass email invitations noted a staffer (Interview 10/27/2010). Table 7.6 provides an overview of the duration of OURs ICT tool usage—and notably a divergence in older and recent tools used.

OURs public forums (and 'teach in' events) on a range of contemporary urban affairs—in some respects are organizationally similar (although politically more activist in nature) to the types of multiplexed forums identified in the DHK and GDS cases which combined on the ground meetings or events which were augmented by ICT practices.

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Saving time and money, and increasing publicity were identified by a staffer as key reasons why OURs has apparently increased their ICTs uses in conjunction with their activities. "So we have to learn the ICT skills, it's not about interesting; it's about survival," the OURs staffer added, noting that they used ICTs for communicating with their members and NGO partners (Interview 10/27/2010). However, the staffer added that for: "common people we have a long way to go—to use ICT skills to communicate with them and do it well" (Interview 10/27/2010). The staffer also noted how society and media in Taiwan had changed significantly since the late 1980s when OURs started its efforts—including the importance of ICTs in providing information that media might not report. Organizationally OURs choice to employ ICTs in its practices remains driven by their widespread uses in Taiwanese society, however these practices have also been shaped by OURs distinct spatial and social justice perspectives, as the sections on participatory and spatial digital practices will further elaborate. Before that discussion however, more needs to be said about how ICTs relate to OURs current organizational practices. This is the focus of the next section.

7.3.1.3 Evolving activism, or an (e-)headache?

Although OURs at the time of the interviews maintained an active office, one staffer discussed how mobility-linked ICTs have altered their organizational culture: from the office as being the working anchor; to ICTs permitting more in-person meetings outside (Interview 10/27/2010). Here, Laguerre's (2005) observations about how virtual practices are transforming the global digital city are noteworthy—particularly in a heavily wired city like Taipei (as Chapter Four elaborated). Still, suggested the OURs staffer, "face-to-face is the key value in OURs" (Interview 10/27/2010). Nonetheless, organizational digital practices had, the same staffer suggested, affected the personal time of employees—exemplified by what she described as a felt need to respond to social media public comments posted on the association's *Facebook* site, sometimes at unusual hours (Interview 10/27/2010).

Traditionally OURs had hired based on interdisciplinary skills—that is, staff had to have an interest in the Association's core urban affairs, housing and community-based activism. For example, the current complement of OURs staffers have specialties such as: environmental planning, policy development, participatory/environmental planning, community participation, historical planning, ecological planning and gardening, housing research.[348] Recently however, they apparently hired an exclusive ICT specialist who was not directly involved in OURs urban policy themes (Interview 10/27/2010). It would be worth examining if this shift might be creating a new organizational dynamic which in the long run creates an 'obligatory passage point' (Callon 1986: 205; Bach and Stark 2005: 39) as a novel intermediary compared with OURs existing arrangements. Despite the need for such ICT professionalization, the staffer did not see ICTs as disrupting OURs' traditional organizational activities (Interview 10/27/2010). Instead they were viewed as extending the diversity of methods or tools at their disposal for communicating, recording and sharing with more people.

[348] OURs website, available at: http://www.ours.org.tw/about/origin. Last accessed 23 April 2012.

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When asked if there might be a problem with ICTs removing people from face-to-face exchanges, the OURs Chair suggested (translated through a staffer) that ICTs were:

> *"[O]nly for exchanging information. Because a lot of meetings or press conferences [we] still need to do that face-to-face. He [the Chair] doesn't think it's a problem, [that is] using ICTs too much"* (Interview 8/24/2011).

On the other hand for some staffers: "ICTs skills means we have more work, actually, to do; because you have to send email, and you have to call to check again; and you have to send email" (Interview 10/27/2010). Similar to how social media was shaping the staffers' need to respond to Facebook in 'non-working hours'—perhaps an anachronism in the digital era—this observation relates to another of Laguerre's (2005: 145) assessments understanding how ICTs are influencing the shifting dynamics of ICTs in the digital city workplace, or what he terms the cyberweek versus the civil week, sometimes blurring the boundaries between the traditional workweek and the global digital city hours of practice.

A number of additional civic environmental concepts and projects—such as OURs focus on urban mapping (The Burning Map Network); 'eco-city' concepts; the impacts of urban climate change; and links to an urban 'guerrilla gardening' movement (Interviews 10/27/2010; 8/24/2011) also provide examples of initiatives which have involved ICT-linked mediation or uses of digital tools. These examples will be further discussed here as examples of ICT-linked participatory and spatial practices in the sections which follow respectively.

7.3.2 OURs' participatory practices

"In Taipei [the] digital divide is not a problem, but the issue is information overload," suggested an OURs staffer (Interview 10/27/2010). The same staffer discussed how the changing uses of ICTs might also be changing the face of activism, observing that the younger generation (in Taipei) are neither passive nor active but that their sense of time is 'right now'—distinct from the older generation. The staffer added that theirs (youth) is the generation of the 'media explosion,' potentially overloading them with information and topics difficult to filter, ranging from the banal, to the important (Interview 10/27/2010)—illustrated in Dean's (2010) argument that Web 2.0 and 'new media' represent forms of narcissistic hype, and in the long-run are problematic for activism. Ironically while information overload appears to sometimes be a problem, the OURs Chair observed (in a translated interview) that more public information is needed from the government, because there has been a lack of transparency with this type of information (Interview 8/24/2011)—an assertion also affirmed by the Founder of the Taiwan Environmental Information Association (noted in the preceding case study of TEIA).

Although access to government information and generational differences in digital activism would be worth further exploration, for now, this section remains focused on the insights that the info-sociational model might provide about OURs' ICT-linked participatory practices. The section that follows discusses how ICT-linked participatory practices may be altering the way OURs relates to the digital and grounded public sphere and activist tactics (Yang & Calhoun

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2007; Castells 2008; Pickerill 2003). The section consists of two components: first, a discussion on OURs' uses of social media, particularly discussing the example of a mega-event, the Taipei Floral Expo and OURs' concerns about greenwashing; and second, additional OURs' linked examples of social media and cyberactivism from several of their Taipei-based campaigns.

7.3.2.1 Mega-events and the use of ICT-linked satire

The uses of social media (Web 2.0) in civic environmental campaigning illustrates OURs continued experimentation with diverse community organizing tactics—in this case extending their traditional concerns about urban affairs into the evolving public cybersphere—in what Yang and Calhoun (2007) refer to as the 'green public sphere' and Castells (2008) the new 'global public sphere.' Yang and Calhoun's (2007) references to the 'green public sphere' are notably grounded and shaped in a distinct socio-political and civic space context from Taiwan, as well as from Singapore and Hong Kong—namely that of the People's Republic of China. None the less their points about the emergence of the digital public consumption of 'greenspeak' and its ICT-linked mediation are noteworthy. Their work can be complemented (or contrasted) by Castells' (2008: 84) suggestion that the 'global public sphere' is critically, "built around the media communication system and Internet Networks, particularly Web 2.0" (Ibid., 90). This, for instance, relates to the OURs' Chair's emphasis on how ICTs have been employed to 'spread information' in the communities OURs is working with as well as amongst these communities. For example (through a translator) he suggested:

> *"We use ICT and that's easy to spread the information daily in the community […] We can help each other by exchanging the information because there are so many different communities, they need some help or some suggestions, so different communities can go to help other communities. Yes, that's easier when we use ICTs to spread the information"* (Interview 8/24/2011).

A more specific example of information 'spread' and 'exchange' is linked to how OURs has employed a commercial social media site (i.e. Facebook) to augment its grounded activism and to generate public discussion and debate. In particular, a staffer identified three roles that social media has played in their organization (Interview 8/24/2011). First, they indicated how it is being employed as a professional forum for discussion amongst its professional advisors—discussing issues such as urban legal regulations (like floor space ratios, etcetera). Second, social media was sometimes used as a tool by OURs for recruiting voluntary assistance—such as for attending environmental impact assessment hearings as well as Taipei Urban Planning Commission hearings. Third, social media has been employed for 'public education' about key urban issues such as the example of a satirical or agit-prop site of Facebook will illustrate (Interview 8/24/2011).

OURs threefold rationale for employing social media illustrates how ICT-linked discourse (albeit limited in a 'cyber-gated', but popular private social media space in Taiwan) in online talk—amongst professionals (a 'community of practice' or 'practitioners') and amongst potential volunteers—has been taking place in the public (cyber)sphere; and moreover is being used to

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reach out to residents of communities faced with development threats. Despite the global reach of social media platforms, their uses on the part of OURs has clearly been on highly localized events. While this echoes to some extent the "informal and formal associations of interests and values," that Castells (2008) refers to, this 'global' concept of the 'new public sphere' arguably steers clear of the need to distinguish amongst distinct local contexts—whether affiliated with specific types of civic associations or located in specific urban contexts (such as the Asian tiger cities). In this regard Yang and Calhoun's (2007) green public sphere and 'greenspeak' has relevance for civic environmental associations because it keys in on the types of publicity that these groups are commonly engaged in. However, the distinct socio-political contexts of the three tiger cities, suggest that the public sphere (participatory) reconfigurations in the info-sociational model needs to be situated in the context of complementary civic associations' organizational and spatial practices and their city-specific contexts.

A perhaps more tangible example of OURs use of social media is its deployment in relation to a host of concerns about the 'Taipei International Flora Expo' (2010-11) raised by OURs and other civic activists, including about the long-term threats to Taipei open and green spaces from the event. In response, OURs organized an Eco-Forum in May 2010—featuring a keynote address by a key critic of the event—and later it organized an online social media educational campaign and satirical Facebook site to raise awareness about these issues (Interview 10/27/2010).[349] For example, related to the Expo, Taipei City instituted a "Taipei Beautiful" program which reportedly created 'temporary' parks (created for 18 months) to beautify the City exclusively for the Expo and subsequently be rezoned and then slated for high rise developments shortly afterwards (Mo 2010: 2; Mo 2011).[350] Regarding this specific aspect of the post-Expo rezoning and density bonusing scheme ['bulk reward'], the Chair of OURs was quoted in the media as suggesting:

> *"The extra land covered by the bulk reward is a public resource, not private property, and the City government should not use it as a gift to conglomerates"* (Mo 2011).

Other criticisms of the Expo, for instance, focused on the overall cost of the 171 day event (which attracted 8.9 million visitors) as being $330 million or reportedly higher (*Taipei Times* 17 May 2011). Drawing upon the activist traditions of satire and poking fun at authority as 'interrupting' tactics, OURs created a mock official styled 2010 'Taipei International Flora Expo Facebook Fan Club' to raise the public's awareness of some of these issues.[351] The OURs staffer describe these ICT-linked tactics employed and some of their reasoning behind the approach:

[349] Link provided by OURs for the Facebook satire site available at: http://www.facebook.com/#!/pages/2010%E5%8F%B0%E5%8C%97%E5%9C%8B%E9%9A%9B%E8%8A%B1%E5%8D%89%E5%8D%9A%E8%A6%BD%E6%9C%83/164806477745. Last accessed 5 Sept 2011.

[350] The program essentially involved a density bonus transfer for private conversions of 'old' buildings in green space for the 18 month program period. A media report on the 'Taipei Beautiful' program identified that: "under the program, owners of old buildings located within 500m of major tourist attractions and transportation hubs who agreed to turn the buildings into green spaces for 18 months are now eligible for a 'bulk reward' [bonus] of an extra 3 percent to 10 percent of their initial land size when they develop the site in the wake of the expo" (Mo 2011).

[351] Refer to the OURs Facebook site: https://www.facebook.com/ourstw, or their 'International Floral Show' link, https://www.facebook.com/board.php?uid=164806477745&start=30. Last accessed 31 October 2011.

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> *"We use the face club to gather people, first. And we report much interesting news about what the EcoCity is—how can we make the Floral Expo better. Actually, we can have more and more alternative ways to do it […] You can see the Floral Expo is full of business, you can see the pop singers, you can see the big corporations, citizens disappeared; you just see people buying tickets and shopping"* (Interview 10/27/2010).

'Eco-city' represents OURs alternative vision for watershed thinking and an ecologically-friendly form of urbanization (also see: Taipei Biennial, 2008). The staffer noted that OURs: "set up this fan club earlier than the city government." They added, "and so when [the] city government finally [noticed] there was a fan club and called a very official name […] they are very angry, so they have a [press conference-transl.] to say we are fake" (Interview 10/27/2010). The approach represents an interesting example of online social media satire, civic environmentalist education, and a pro-public space awareness tactic—and it has similarities to Pickerill's (2003: 123-124) identification of electronic tactics, particularly, "unofficial websites and subvertising," which can be used to, "proliferate *agitprop*, offering a different version of truth" [emphasis hers].

7.3.2.2 ICTs as situational urban mobilization tools

Several other examples of social media and ICT-linked practices in mobilizing public awareness about civic land use, environmental and housing issues around Taipei were noted by OURs staffers. One example involved recruiting and mobilizing people using Facebook protect an historical old street in Danshui—an historical riverside district of Taipei. The approach, reports the OURs staffer (Interview 8/24/2011) involved recruiting approximately 1000 people to stop a road widening project (Chongjien Jie, Danshui) (30 May 2010).[352] The other example involved a type of flash mob approach similar to the 'green guerrilla' urban ecology tactics modeled on tactics employed by urban environmentalists to re-vegetate or restore city spaces. The staffer described this set of digital tactics further:

> *"And there is one group of people that they would send information on Facebook, say we are going to plant something on some specific green spaces and if some people are interested you can meet in that place at some specific time, some certain time, and we can use the Taipei green space to do some agriculture uses […] this activity we do that face-to-face, we not only use Facebook"* (Interview 8/24/2011).

In addition OURs has made use of online petitions largely through the use of email distributed petitions lists as well as identified links to petition-related websites on issues of importance

[352] Link provided by OURs in relation to the Danshui Chongjien Jie (Chongjien Street in Danshui, Taipei) issue available at: http://itamsuimarket.blogspot.com/2010/05/blog-post_31.html. Last accessed 5 September 2011.

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(Interview 8/24/2011).[353] Returning to the discussion of ICT-linked activist 'tactics,' the examples that OURs cited in Danshui (the street protest), as well as the urban greening tactics (green guerrilla plantings) relate to what Pickerill has termed 'combining electronic tactics with physical protest'—or what has been more broadly termed multiplexing in this study related to the blending of on and offline activities. Pickerill (2003:129) suggests that, "in most cases CMC (computer-mediated communication) was used as an additional tool of protest or during the mobilizing and co-ordinating of events, which then took place offline." The final section of this case discusses OURs' spatially-linked digital practices.

7.3.3 OURs' spatial practices

How OURs' ICT-linked spatial practices relate to global-local spatial transformations and associational alliance formations is discussed in this section. This first involves examining the 'Burning Map Network' experiment, some of the possibilities that it has generated as well as some of its difficulties. Second, a brief discussion of how OURs has complemented its longstanding alliance-building efforts partially through ICT uses.

7.3.3.1 'The Burning Map'—an experimental platform for hope

Burning Map is a multi-modal GIS-based map and text tool which OURs fostered as an experiment initially in Spring 2009—identified and briefly demonstrated during the very first interview with OURs (Interview 4/2/2009).[354] Referred to as both a 'platform' and a 'network' by OURs, its origins stem from a Board member's idea—and it includes both virtual and grounded components. In a later discussion about Burning Map, an OURs staffer suggested:

> *"We have information networking, so you can see the Google Map, there are many issues and NGOs [listed] there. And we have real social networking—we also call that the Burning Map Network in the real world"* (Interview 10/27/2010).

'Burning Map Network' members include approximately twenty Taipei-area community development councils (quasi-non-governmental organizations); local community groups; and affiliated groups such as the Green Party Taiwan.[355] The idea that a map could build upon existing relationships amongst NGOs and draw attention to cross-cutting urban spatial issues was considered as 'very experimental' (Interview 10/27/2010). The approach appears to

[353] OURs provided links for examples of two petition campaigns they employed, available at: http://www.ours.org.tw/blog/ours/2011/07/28/224; and https://docs.google.com/document/d/1uwYXhTTH1WpbHdRhP3ho-QwE1g20gNs-sOiEEMmN20A/edit?hl=zh_TW&pli=1#. Last accessed 5 September 2011. In addition an OURs staffer identified an important specialized petition website for civic associations in Taiwan, available at: http://campaign.tw-npo.org/. Last accessed 5 September 2011.

[354] *Burning Map* was apparently intended to have a double meaning when understood in Chinese, according to the OURs staffer. One meaning refers to urban heat island and climate change effects; and the other refers to burning people or people burning, suggesting the potential catastrophic outcomes of urban overheating (Interview 10/27/2010).

[355] The Green Party Taiwan—an environmental party, with regional and global affiliations—needs to be distinguished from the "pan-Greens" which refers to the Democratic Progressive Party (DPP).

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combine two spatial transformations suggested in the info-sociational model. First, the potential to rescale or toggle (using the GIS map functions) from site specific to urban basin or city-region scale and link issues to these—is linked to Sassen's suggestion that affordable ICTs can enhance civic associational scalar reach. Second, the Burning Map Network as a digital and physical alliance illustrates multiplexed networks for potentially exchanging or generating 'civic intelligence'—for addressing urban and environmental problems in Taipei (Schuler 2001).

A translated introduction from the original beta site, Burning Map site notes:

> *"The map was sponsored by OURs to show environmental issues in Taipei and to have an Internet map platform to indicate urban planning/governance crises in the area. The map also intends to support civil/public-oriented policy and planning discourse. The hope is that through this professionally integrated platform users can connect to Taipei area civil society / public interest, voluntary and educational groups"* (http://www.burningmap.blogspot.com/ Last accessed 1 December 2011).

The Chinese-language site is open for all to register and to tag (or mark) the map and add comments or images on burning (i.e. important) spatial issues (Figure 4).

> *"We want people to see the bigger and deeper problems in the Taipei basin. So its boundaries are natural boundaries, you can see the mountains, you can see the rivers. You have to face the fact Taipei is a basin, the heat island effect is very, very serious, maybe the most serious in the world"* (Interview with OURs staffer 10/27/2010).

OURs sees their map as a broader educational resource about urban environmental issues or what they refer to as "eco-city" issues.[356] According to the OURs staffer: "we want to have a transition to teach people how to live; how to help our city to translate to an eco-city in your daily life" (Interview 10/27/2010). At the time of the interview one staffer spent around 10% of their time managing the Burning Map project and two staffers also assisted with editing and uploading (Interview 10/27/2010). Illustrative of the idealistic possibilities shaping the first version of Burning Map the OURs staffer suggested:

> *"Burning Map can be the hope map, any kind of hope; if you want to see the butterflies everywhere in the city, you can create your butterfly map to replace the burning map; and maybe you can create the organic food or the green shop map—everyone can have your personal map […] We think it's an alternative way of urban planning and really from the community"* (Interview 10/27/2010).

[356] The staffer went on to describe how they link the research of Dr. Shaw Chen Liu (Academia Sinica, Research Center for Environmental Changes) on the potentially serious consequences of urban heat island effects in Taiwan's cities to their activist mapping (see: Chen 2010a). Linked to these concerns OURs organized an art-environmental awareness event on climate change impacts in the Taipei basin at the 2008 Taipei Biennial.

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Figure 7.3: **A screenshot of OURs '*Burning Map*' online GIS map mash-up.**
Source: Burning Map of Metropolitan Taipei, http://www.burningmap.blogspot.com/. Last accessed 1 December 2011.

While the ideals and ideas behind Burning Map are impressive and inspiring for anyone interested in urban transformations, it remains questionable to what extent the project was able to demonstrate community-based initiative—comparable, for instance, to OURs face-to-face community-driven planning practices—although Burning Map shows potential to be a crowd-sourced effort. An OURs staffer noted that Burning Map was intended to be an entry point for environmental issues and it was a way of where, "you can be the media by [using] Burning Map, yourself" (Interview 10/27/2010).

OURs also intended to encourage local associations, citizen monitoring and reporting on the blog/website; and visitors have also been directed to post comments or join linked OURs-sponsored face-to-face public events (Figure 7.3). An OURs staffer admitted a number of problematic areas about the Burning Map experiment which might inform possible upcoming versions. For instance, the staffer suggested that improvements might include: involving civic

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reporters in generating content; addressing map layout issues and tag crowding problems; adding GIS layers (like electoral districts) linked to local issues; and promoting accomplishments and resource needs of local civic associations (Interview 10/27/2010).

Table 7.7: **Degree of importance attached to the overall uses of ICTs in OURs' organizational-participatory-spatial practices**

ICT-linked area of use	high	moderate	low	none	n / a
strengthening internal activities	—	■	—	—	—
strengthening external activities	■	—	—	—	—
creating new spaces for public participation	■	—	—	—	—
providing tools for civic activism & mobilization	■	—	—	—	—
enabling greater geographic reach	—	■	—	—	—
increasing potential alliances	—	■	—	—	—

Source: Question #17, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia' (Hong Kong, Singapore, Taipei). The question was phrased as follows: "In your opinion how important are the overall uses of ICTs to your association in the following areas: [areas noted above in far left column] High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

Up until 2010 Burning Map was designed to be a 'beta' (or experimental) digital tool and it had not garnered a significant number of visits; and subsequently the map at the original Burning Map site (at the time of writing) appeared to be largely inactive. This was confirmed in 2011 when it was noted by an OURs staffer: "Right now Burning Map is kind of old. We didn't keep updating it. There's lots of things happening right now in Taipei, it's too fast" (Interview 8/24/2011). This not only provides perspective on how fast changing issue-networks continue to shape OURs' active schedule of grounded activities—it also provides an insight into how ICT-related tools can rapidly shift from being beta or experimental to becoming out-of-date or even obsolete if digital public interest is not maintained. The OURs staffer did, however, suggest that there were plans in the works for a Burning Map 2.0 version for which they were considering adding visual analysis of climate-change-related flood impacts and a simulation of, "the whole system, the weather, the flooding and the heat" in relation to the Taipei basin (Interview 8/24/2011).

Conceptually the wider spatial shift proposed in a possible Burning Map 2.0, to a 'whole system approach, also illustrates the type of scalar shift that Sassen (2004) identifies with ICT practices amongst civil society groups. Such as shift, again from site-specific to regional city (or eco-city)

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***Figure 7.4*: Listings on the OURs website of street lectures related to the Shilin demolitions in March, 2012.** Source: Available at: http://www.ours.org.tw/blog/ours/2012/04/07/260. Last accessed 22 April 2012.

scale was a notable achievement of the first Burning Map experiment, which introduced its scalar toggling into local and regional issues through the GIS interface. What the info-sociational model terms 'ICT-linked spatial practices'—namely enabling greater geographic

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reach and potential alliance formations—however, was identified by OURs in a survey question (asking it to assess a range of uses) as of moderate importance compared higher rankings for ICT-linked external, public participation and cyberactivist activities (Table 7.7). This may suggest that non-digital tools and approaches play a more important part in spatial issues for OURs than ICT-linked tools and platforms do at the present.

7.3.3.2 OURs networked alliance formations

One final example in some respects returns us to OURs' origins as a group concerned about street-level housing activism and urban justice issues—this was a recent example of a demolition occurring in Taipei's Shilin District in March 2012. In brief, the incident occurred late March (28-29) after a majority of residents in the particular block of the District had agreed to a redevelopment. However a family of holdouts—who did not agree with the redevelopment—had to face the reality of the demolition of their home.[357] This particular event sparked off a flurry of protests about the demolition itself and about urban "land justice" issues—and also resulted in calls for reforms to the *Urban Renewal Act* (Loa 2012: 1).

OURs connection event was to provide in-situ support—a type of solidarity or affinity alliance for sharing and building what Schuler (2001) terms 'civic intelligence'—by encouraging students to support the displaced family; as well involvement in organizing a series of events in the neighbourhood. These Taipei-based Shilin neighbourhood events (Figure 7.4) included a series of street talks or lectures focused on urban renewal, legal and spatial issues, planning issues, housing and urban policies, as well as featuring live music. Arguably, as well, this demonstrates a 'community of practice' (Sassen 2004) because of solidarity-building aspects of this in situ alliance. Information for this on-the-ground forum was mediated through the OURs website—including information attachments on urban renewal and housing policies.[358] Allied protests and mobilizations at the time of the demolitions were reported to involve (at least partially) the work of netizens and social media activists who linked up with on-the-ground opposition to the housing demolitions and broader calls for land justice (reported in Feng & Mo 2012: 1). The linkage between physical and digital spaces of action (identifiable online at the time) can be distinguished by OURs earlier exclusive 'street-based' activism with what is being characterized as info-sociational practices in this investigation. Whether viewing OURs either through the lens of grounded practices shaped by events; or through an info-sociational approach—we can see a clear ongoing connection to the original urban spatial justice issues which have long motivated its associational membership and mandate.

[357] Apparently in Taipei (and according to Taiwan's *Urban Renewal Act*) if at least 75 percent of the landowners consent to a redevelopment then the City government can proceed or approve the 'redevelopment' project, "in the interests of the majority of the owners" (Mo 2012).

[358] See: http://www.ours.org.tw/blog/ours/2012/04/07/260 Last accessed 22 April 2012.

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7.4 Taipei: case pair summaries for TEIA and OURs

The cases of TEIA and OURs are reviewed in this section in relation to the info-sociational model's three key ICT-linked practices: organizational, participatory and spatial. This will provide an empirical basis for further inter-case analyses.

The case of TEIA it was suggested—through its relatively short associational lifespan—has demonstrated experimental green networking primarily through functioning as a form of new media (particularly early in its organizational history). The info-sociational model provided a means for examining ICTs role in networking, new media, as well as TEIA's grounded activities. The organizational, participatory and spatial components of this analysis will be briefly reviewed here.

First, in understanding TEIA's organizational co-evolution with ICTs several factors are notable. One is given its staff and volunteer dynamics—wedged between the pressures of a passion for environmental justice in Taiwan and tight financial and staffing pressures—TEIA has employed ICTs pragmatically, yet experimentally, and has arguably formed a 'knowledge community' (Bach & Stark 2005: 41, 43). This involves shared 'domains of knowledge' (both internally and externally) arguably as a form of 'green new media,' primarily within the wider Taiwan civic environmentalist network. TEIA retains a solid commitment to providing vital online news to the environmental and allied movements and actively employs ICTs to cover, gather and mediate environmental information. This suggests it is actor-networking as an 'obligatory passage point' (Callon 1986; Bach & Stark 2005) in the process of receiving and transmitting environmental information. It also engages in information 'translation' by synthesizing, filtering and selectively mediating green information. TEIA's experimentation with ICTs, starting entirely as what Laguerre (2005) calls a 'digital office' (or a virtual or e-organization), increasingly has emphasized face-to-face communications. Yet TEIA continues to experiment with social media and ICT organizational tools to further its aims. Within TEIA, internally, staffing and volunteer turnover remain key issues for maintaining solidarity, continuity and capacity as well as people's shared organizational memories (in contrast to 'digital memory'). In some ways TEIA has followed a path back to 'traditional' (pre-ICT) non-profit civic environmental association—having an open physical office, and intense face-to-face collaborations between staff and volunteers (and increasingly with the public in some of its projects like Eco-Working Holidays). This apparent trajectory also includes TEIA's Environmental Trust initiative and other outreach activities, including a growing emphasis on earth-based projects and grounded values like habitat protection and in-person environmental education.

Second, TEIA's ICT-linked participatory practices—emphasizing new or alternative media approaches—were described as 'new public sphere' (Castells 2008) because TEIA is not only a new media organization (circulating and digitally exchanging information) it has also linked 'issue networks' it its efforts highlighting and prompting debate and discussion about key problems in Taiwan and case examples from elsewhere. As an ICT intermediary TEIA has also proactively supported smaller civic associations with their ICT practices arguably strengthening peer support and environmental activist networks (Pickerill 2003). TEIA's activism therefore can

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be understood as more of a supporting (and connecting) role focused on mediation of progressive messages in its wide or holistic frame of environmentalism (including community issues, women's issues, labour, aboriginal issues, disenabled people's issues and so forth). Also important has been the role of its staff and voluntary (trained) civic reporters in collecting and identifying civic environmental issues from around Taipei and Taiwan.

Third, TEIA's digitally-connected spatial practices involve supporting allied groups and 'scaling up' its coverage beyond Taiwan to focus on global environmental issues. Similar to participatory practices TEIA's spatial practices have gone beyond Taipei-centric news and cover a range of issues amongst different groups and communities—in a sense building a 'community of practice' (Sassen 2004) as it requests information from diverse channels to include in its e-news. TEIA has also connected with global environmental networks and groups (e.g. Earth Day Network; International Trust Alliance) and its reporters have both translated global stories and also covered them in person. In this sense TEIA's directors, staffers and volunteers are 'situated individuals' (Keck 2004) who have played their part in shaping a civic environmental actor-network at various scales from the local to the global (Sassen 2004).

In contrast to TEIA's long duration of ICT practices through the course of its relatively short organizational lifespan, the case of OURs illustrated a longstanding civic association whose movement roots were maintained by a combination of community (face-to-face) networking about urban spatial justice issues. More recently OURs' efforts have been complemented by ongoing experimental forms of networked activism. These ICT-related network formations were examined using the organizational, participatory and spatial components of the info-sociational model and are summarized as follows.

First, the OURs case illustrates the situation of a longstanding non-profit association that has attempted to fit ICTs into their local design activist and community-building modes of communication and tactical repertoires. Its foundations enmeshed and linked to Taiwan civic movements and activism (primarily urban planning, housing and community empowerment) were seen as integral to shaping OURs' issue networks (Marres 2006) and its function as a 'knowledge community' or actor-network (Bach & Stark 2005). OURs experiments with ICTs arguably emphasize these activist roots by 'contiguous experiences' (Bach & Stark 2005: 49) or multiplexing which involved linking virtual activities to on the ground events, incidents and campaigns. While traditionally OURs staffers have also been passionate activists, the narrative indicated that this may be shifting as ICT technical skills were deemed increasingly important. ICTs were also seen as potentially altering temporal and spatial arrangements observed in relation to Laguerre's (2005) findings.

Second, it was suggested that ICT-linked participatory practices at OURs demonstrated aspects of both Castells' (2008) and Yang and Calhoun's (2007) variants on the new public sphere and green public sphere. For instance, OURs employs social media to 'spread' and 'exchange' information, to augment its grounded activism and to trigger public deliberations. These involved social media uses in professional forums; recruiting volunteers for public hearings and for education about urban issues. Distinct from Castells (2008) work these have an exclusively

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local focus and distinct from Yang and Calhoun's (2007) green public sphere they are situated in a democratic setting. OURs also employed social media as a satire (or Pickerill's [2003] digital 'agit prop' tactics) to critique civic issues related to the Taipei International Flora Expo (2010) and to push for 'eco-city' alternative visions. As well ICT tools were used as instruments for civic mobilization to address what OURs saw as unjust urban planning; as well as for 'green guerilla' urban ecology tactics—akin to Pickerill's (2003: 129) combined virtual-grounded tactics.

Third, ICT-linked spatial practices at OURs were tied to the experimental Burning Map and the Burning Map Network—a type of hybrid, or mixed on/offline, experimental space centred on both people-to-people networks and a GIS online digital mapping tool. Scalar transformations along the lines of Sassen's arguments (2004) (g/local scalar shifting) with Burning Map were arguably more city-regional in scope, but enabled a wider (regional) scalar perception and issue connectivity beyond the site-specific. The Burning Map Network not only enabled spatial transformations (regional scale issues awareness) it was also suggested that it demonstrated a potential means for generating unique forms of 'civic intelligence' (Schuler 2001) for addressing local and regional urban environmental problems in Taipei. Moreover, OURs grounded activism continues to drive its ICT practices—this is crucial in how it forms and shapes its 'communities of practice.' At OURs the design and integration of ICTs appears to be closely linked to a longstanding focus on urban spatial justice activism and its interests in catalyzing alternative visions for the city.

In the Chapter that follows, the investigation will further evaluate the connections and differences between the age distinct case-pairs in each city. In addition, the analysis will discuss—in relation to the findings across the six cases—critiques of ICT practices; along with how these are shaping and shaped by their city-specific civic space storylines. The core of the analysis of findings that will follow compares the civic associational-level practices identified in the past three Chapters in relation to the info-sociational model.

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Chapter Eight. Findings: civic environmentalism & ICTs in the tiger cities

8.1 Introduction: Comparing civic associations using an info-sociational approach

The six case studies in this investigation have conveyed a distinct set of narratives about the ICT-linked practices of civic environmental associations. On their own, those case studies have demonstrated that civic environmental groups in Hong Kong, Singapore and Taipei are experimenting with ICTs in very diverse ways—everything from eco-issue online maps, to nature apps; from green e-news, to online forum public views. In comparing these case studies a number of similarities, differences, surprises and paradoxes about the ICT-linked practices become evident. An info-sociational approach was suggested as a means for comparing these digital practices—specifically through understanding their interconnected organizational, participatory and spatial practices; and situated in distinct civic spaces and in relation to critical perspectives. These comparisons will form the core part of the discussion below. This Chapter draws-upon the empirical work from Chapters Four through Seven in order to conduct an assessment of research findings; and in the process, to support the study's earlier objectives as articulated in the research question and theoretical propositions.

Overall this Chapter sets out to examine how the empirical findings address the research questions posed at the beginning of the investigation, namely: *how and why are civic environmental associations employing ICTs in their practices? And in what ways are these ICT-linked practices transforming urban civic space in the tiger cities? Further, what critiques and potentialities arise from civic ICT praxis?* Addressing these questions will be done by reviewing the empirical findings in relation to the three theoretical propositions that were articulated earlier in Chapter One. In brief, these propositions suggested that info-sociations were: *a) shaped by and shaping of civic space; b) shaped by and shaping of organizational-participatory-spatial practices in associations; and, c) potentially seeding civic cyber(spaces) of hope.* An info-sociational approach seeks to uncover understandings about distinct ICTs practices in civic associations that are multimodal and either multiplexed and/or multiscalar in their uses.

This Chapter employs the info-sociational model to further evaluate the study's findings—structured around four sections. The first section focuses upon the findings in relation to the First Proposition about ICTs and changing civic space. This section will link the case study findings to their *city-specific storylines* or context-settings. The second section works with the Second Proposition about civic associational transformations in ICT-linked practices—and employs *organizational, participatory and spatial* analytics for studying these. This involves making distinctions in relation to the *six query-criteria* in the info-sociational model; and it also involves comparing *age-distinct findings amongst coupled cases of* civic associations. The third section, relates the investigative findings to the Third Proposition about *the need for identifying critiques and hope in ICT-linked practices*. The final section of the Chapter provides a synoptic overview of the investigation's findings.

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8.2 Findings about civic space in relation to *Proposition One*

This section attempts to address the First Proposition that info-sociations (civic associational ICT practices) are shaping and being shaped by civic space in the three tiger cities. Although the micro-practices of civic associations support the bulk of this Chapter's info-sociational analysis, relating these civic narratives to their broader city-specific contexts remains of importance. Part of this review of the findings seeks to examine what these case studies might suggest about the changing nature of civic spaces (including civic cyberspaces) in the tiger cities. In this section, the three civic spaces storylines will first be briefly reviewed in relation to the previous city-specific discussions of associational life, environmental and informatics issues—undertaken in Chapter Four of this investigation. The second section examines the case study pairings and their linkages to changing civic space in the three tiger cities. Thirdly, a set of six synthetic points will discuss reconfigurations of civic space in Hong Kong, Singapore and Taipei.

8.2.1 Reviewing the storylines of civic space in the three tiger cities

In Hong Kong the storyline of civic space that emerged was one where post-colonial civic associational life remains vibrant and challenging—both on the street, as well as online—and where civic environmentalists have allied with other groups and movements to articulate their concerns about eco-social and spatial justice. The examples discussed in Chapter Four of civic environmental issues in Hong Kong—ranging from heritage activism to land use and public space issues, as well as traditional environmental problems like air quality and the fate of urban public spaces—illustrated a diversity of ongoing concerns about the fate of civic space in the city-state (Special Administrative Region). The Hong Kong civic space storyline was also one where alongside an impressive service economy growth and transition, including high ICT penetration rates, a number of civic-cyber groups have been involved with 'new social media' forms of activism and cyberculture formations in the digital public sphere. These nascent groups, like their longstanding civic environmental association counterparts, frequently shared common concern about urban 'shadow issues' and therefore appear to be important (potential or existing) allies for envisioning alternatives to a 'business as usual' treatment of civic space and civic cyberspaces. An info-sociational approach was employed not only for analyzing Hong Kong's civic associational ICT-linked transformations—as illustrated in the two case studies of Designing Hong Kong (DHK) and The Conservancy Association (CA), found in Chapter Five—but also, arguably as a means for exploring the complex reconfigurations of entangled civic space and civic cyberspace.

Meanwhile in Singapore the emergent storyline of civic spaces was of a more constrained or historically bounded associational life, which nevertheless has witnessed an articulation of possibilities. These potentialities, identified in Chapter Four (and in the case studies), have been actively explored by online bloggers, online activists, netizens and increasingly, the general public. These ICT-savvy civic-cyber counterpublics and coalitions appear to be pushing the possibilities (and even the boundaries) both in civic cyberspace and even potentially in grounded spaces which were once delineated by civic space out of bounds (OB) markers. While

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civic environmental issues in Singapore may be less of a public concern, or at least less actively demonstrated, than in Hong Kong or Taipei; these issues, too have resulted in challenges for the city-state on an array of issues at the time of the case study research. Local civic-cyber resistance in relation to issues such as Bukit Brown or the Green Corridor has demonstrated that Singaporeans are concerned (and even actively concerned) about public space and environmental issues—as the case studies of Green Drinks Singapore (GDS) and the Nature Society of Singapore (NSS) suggested in Chapter Six. And similar to the other two tiger city-settings, the Singapore civic and cyberspaces are being (re)shaped and (re)defined by civic environmental associations which frequently mixes forms of pragmatism with idealism in an effort to achieve their goals.

The storyline of civic space in Taipei illustrated the importance of a dynamic, active and politicized civic life—consisting of civic-cyber associations which have clearly been far less constrained than in Singapore; and to some degree than in Hong Kong. Besides the range of current and ongoing environmental concerns raised by civic environmentalists in Taipei; the longstanding civic environmental groups, and their allied movements, have recently witnessed (or been directly involved) in creative application and experimentation with online tools as Chapter Four has identified. This new generation of civic cyberactivists has worked to make their favorite issues public; while at the same time, pressuring (or shaming) public officials by employing a variety of ICT-linked and grounded tactics. Like Hong Kong and Singapore, therefore, Taipei is home to an interesting and evolving actor-network of groups and concerned citizens who have experience in traditional forms of activism; as well as groups (and movements) which are new or 'green' to civic environmental issues, but who share concerns and passion about the long-term fate of their cities. How Taipei-based civic environmental groups are employing multiple modes of ICTs to help build multiplexed, multiscalar coalitions, alliances and networks was identifiable in the two cases studies found in Chapter Seven of the Taiwan Environmental Information Association (TEIA) and the Organization of Urban REs (OURs). These two civic environmental associations and the other case couples—in Hong Kong and Singapore—will be the focus of the discussion in the section that follows, as the investigation seeks to identify linkages between ICT praxis amongst civic associations and changes in their city-specific civic space settings.

8.2.2 Implications for civic space from the tiger city case pairs

The info-sociational model has suggested that the critical focus of analysis needs to be on the day-to-day practices of civic associations when they are analyzed as socio-technical actor-networks. However, understanding how and why ICTs are being employed and deployed in local civic associational sites also has implications for changing civic space (including civic cyber space). It therefore remains helpful to review some of the similarities and differences between the case study pairs (and the broader group of civic environmentalists) in the three city-settings along with their overall civic environmental context—and how this relates to the 'civic space storylines,' identified above. This will be the focus of the four-part discussion that follows.

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a) Hong Kong case pairs and reconfigurations of civic space

The cases of DHK and the CA, both situated in Hong Kong, feature a number of similarities and differences which are discussed here in relation to an info-sociational approach and the topic of civic space. Besides the age differences between these two organizations—at 33 years, the largest difference in span between all the case pairings—DHK's uses of ICTs can be characterized as catalyzing or seeding. DHK is organized as essentially a 'one person show,' in comparison with the longstanding organizational and environmental network structures of CA. Illustrative of network intersections between civic groups in Hong Kong, it was learned in the course of the investigation that DHK's CEO served on CA's Current Affairs Committee (as indicated in the CA's 2007-2008 Annual Report). This not only signals joint actor-networking, but also how commonly shaped 'issue networks' (e.g. on conservation, land use planning issues, etcetera) co-influences both groups' ideas and ideals. For instance the Founders of DHK have had key crossover involvements in other Hong Kong civic associations (e.g. WWF and Civic Exchange). Both Hong Kong civic groups identified the various common spaces where these issue networks are being formed in the City, including: official public meetings/consultations on key issues; coalition-building events; serendipitous networking in the city's people dense places; and increasingly digital networking (through venues such as list serves and online campaigning).

The 'obligatory passage point' in a primarily single-person run organization like DHK is arguably easier to identify than in a polycentric formation like the CA—where at least one nexus exists in key committees such as its 'Current Affairs Committee,' but others may be more project specific. This diversity of organizational forms shapes ICT practices in civic associations as do the evolving 'issue networks' (Marres 2006)—and both shape the increasingly diverse forms of intermixed physical and ICT-linked social networking which is a common attribute of civic associational life and civic space in Hong Kong. While both DHK and CA identified employing general and project specific websites, email and regular e-news type newsletters (CA's 'Green Messenger' e-news in Traditional Chinese Script; DHK's e-news largely in English); each retains distinctive website styles or formats, with DHK employing a long-format blog style website; while CA's website utilizes a basic nested frame architecture, that was developed in house rather than through expensive outsourcing. Digital practices were embedded in DHK's 'DNA' from its genesis; whereas with the CA (and its traditional office arrangements) their ICT praxis has been pragmatically (and cost-effectively) 'time-released' as trials, projects and increasingly diverse digital experiments. Both groups' digital efforts suggest that in Hong Kong there is some degree of public or peer expectations that civic associations remain digitally current in regards to ICT uses in organizational practices, public online outreach and even spatial practices (as the discussion on digital maps might suggest).

DHK's CEO employs his own social media page (and the DHK website also features a link to his formal public office venue); whereas the CA retains a formal organizational social media link on its webpage, as does its individual project websites (i.e. each with its own social media pages). DHK has employed OPOL tactics in e-campaigns related to land use issues it has also used ICTs for public sphere mediation efforts (e.g. e-news; CitySpeak forums); whereas the CA has been less apt to employ such cyberactivist tactics. It does, however, frequently situate its

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counterplans, publications and 'Green Messenger' news online (on its website) and therefore like CA, contributes to the emergent Hong Kong digital public domain or what might be termed a Hong Kong green public sphere. Arguably both groups have had results with their multiplexed ICT practices, as illustrated in examples such as CA's wall tree flash mob and Long Valley campaign; and DHK's Save Repulse Bay and Harbourfront Design Competition—suggesting that government policies were changed or influenced as a result of actions which typically employed ICTs to augment their core campaign messages.

Finally, both groups have experimented with online GIS mapping tools. This has arguably involved spatial and scalar transformations using ICTs to make connections primarily at the city-region level, but also at times extending its reach to the global scale. For example, the CA's eco-protector initiative involved local participation in a global online ecological restoration event. Primarily CA's scalar shifting through ICT practices has occurred at the regional level such as in its 'Hong Kong Rural Devastation Map' and 'Mission Green' initiatives (both online GIS map based tools). Similarly, DHKs recent support of the Citizen's Map (an initiative of a local commercial newspaper) occurred after its own online mapping efforts were unsuccessful. DHK's 'Central Harbourfront International Design Competition,' provides an example of ICT-linked spatial practices which bridge local and international scales since they used a digital platform for contest organizing and for public deliberations on a civic design issue. Spatial practices, in a high density city-region like Hong Kong, interestingly, illustrate a diversity of agendas at play amongst civic environmentalists as they sometimes seek to focus on highly localized site-specific issues; or to build a region-wide understanding of concerns (i.e. in the HKSAR territory or in the Pearl River Delta Urban Mega-region); and even at times to connect to global scope environmental issues.

The picture that emerges in comparing this Hong Kong case pairing—and further elaborated in Chapter Five—is that of two distinct civic environmental associations that have much in common (besides an 'issue network') in their ICT practices. However, both have geared their digital practices to meeting their distinct members' needs, such as DHKs urban design and planning oriented concerns, versus CA's longstanding conservation, ecosystems integrity and biodiversity concerns. With CA these needs are apparently more complex given its size and the historical importance of longstanding committees and multiple-funded projects. What also emerges in these two profiles is the incredible range of civic space issues at play even in a relatively small urban region like Hong Kong: ranging from urban design and public space issues in high density settings; to issues about nature conservation and rural land use in Hong Kong's New Territories. More on some of the possible age-linked distinctions shaping ICT practices between civic associations and civic spaces will be discussed later in this Chapter.

b) Singapore case pairs and reconfigurations of civic space

The two Singapore cases of GDS Singapore and the NSS—differing by 17 years in age span—can be compared and contrasted using the info-sociational model, including in relation to civic space. Similar to the earlier distinctions between DHK and CA, Green Drinks Singapore operates

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largely as 'one-person' organization (with a single person 'obligatory passage point'). Whereas NSS has a complex and highly decentralized organizational structure and its 'obligatory passage points' were not singularly the domain of The NSS Executive Committee or its key subgroups (like the Bird Group); but also the purview of 'supernodes' or key ICT-savvy volunteer-members who assisted NSS in its website, blogging, social media development and more recently, in initializing nature-oriented smart phone applications (apps). With its ICT practices critically focused on its key monthly events, GDS's Founder has also found time to experiment with a website/blog and common announcements that have been multiplied on social media and microblogging platforms. These two approaches both fit the apparent professionalization of many civic associations operating in ICT-intensive Singapore, with GDS arguably being more geared to working professionals. The longstanding group NSS, meanwhile, having completed a complex website migration (with centralization, consolidation and branding issues) in 2010-2011 (partially with the assistance of public funds earmarked for non-profit groups' IT improvements) has also reasserted a single Society image (compared with its subgroups sites) including online functions such as news, events, calendar, publications and fundraising amongst others.

While in some respects GDS can be characterized as an informal and perhaps 'paradoxical' civic environmental grouping or network formation (e.g. Mulvihill 2009)—focused as it is more on LOHAS issues, rather than 'deep green' issues—it none-the-less appears to be pushing some boundaries in Singapore's historically constrained civic space. These bounds, however, has not been exclusively linked to online activism (aside from its support to emergent local civic-cyber alliances), but rather in its 'green public sphere' (Yang & Calhoun 2007) activities: such as networking events, creative workshops, guest speakers, public forums and uses of ICT-linked mediation. The GDS organized Election Forum, for example, is arguably illustrative of changes in civic space in Singapore in that an open discussion on environmental issues (convened by a civic association) in the context of a General Election would, until very recently at least, be considered highly unusual if not unacceptable.

NSS, despite its organizational longevity and air of formality, has identified some of its members' individual involvement in online environmental activism as playing a supporting role in the evolving green digital 'issue network' which is changing the city-state's civic cyber space. Indeed, NSS's birders blog wars were have been illustrative of the importance of green blogging and green discussion forums in Singapore's emergent digital environmentalism. Support to nascent civic-cyber activism on the part of NSS has apparently included analytical support to non-NSS groups with supporting campaigns on the Green Corridor and Bukit Brown issues, as is further discussed in Chapter Six. GDS too, has (via its Founder's initiative) supported these recent campaigns, however, compared to NSS's role (i.e. providing position papers, member activism, and online support), their support has been more a function of the loose, informal social networking that its events enable. Notably, Green Drinks international founders suggest that local initiatives be nominally apolitical. Interestingly then, the GDS and NSS approaches to supporting ancillary civic-cyber groups appear to complement each other in the context of Singapore civic space—by providing face-to-face spaces for informal networking (i.e. GDS); and by providing institutional resources for making the case or framing the position (i.e. NSS).

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A number of NSS's ICT tools have also arguably encouraged spatial shifts in public environmental consciousness and spatial cognition (including its digital/GIS online bird map and pilot smart phone application). 'Formal and experienced' (or seasoned) characterizes NSS as an organization in comparison with GDS's 'informal and networked' approach to organization and participation. None-the-less the later approach has—in the Singapore context of (self)constrained civic activism and civic space—has apparently rapidly 'translated' the global Green Drinks environmental networking message (and enthusiasm) into the Singapore environmental scene. Arguably the GDS approach—with its emphasis on the face-to-face, but crucially augmented with ICT mediation—has also helped in transforming the local 'green public sphere.' While at first glance the two groups might seem to be worlds apart, in fact, because of Singapore's tight networks, GDS has also been able to plug into local civic environmental actor-networks and issue networks—including inviting NSS members as guest speakers at its events; and its Founder playing a role in involvement with the Singapore Green Roundtable alliance; as well as the Founder moderating an e-environmental discussion group with a focus on Singapore.

Both GDS and NSS also illustrate a type of keenness to employ and experiment with ICTs that may be distinct to Singapore amongst the three civic space settings (including the apparent Singapore governmental support to ICT-initiatives for the 'people or civic sector'). The final case-coupling examines two Taipei civic associations in the context of changing civic space in that city-region, in the section that follows.

c) Taipei case pairs and reconfigurations of civic space

The two Taipei-situated cases studies—detailed in Chapter Seven—are the focus of this discussion. The info-sociational model has served to highlight the differences between what might be termed 'experimental green networking' at TEIA; compared with OURs' forms of 'networked activism.' The former case has involved the formation of a green media hub and information network as a central organizational platform for addressing what TEIA's Founder characterizes as a need for greater access to information and increased transparency in Taiwan. OURs on the other hand employs ICTs in a situational and sometimes experimental manner; and closely links these practices with its longstanding civic activist objectives.

Indeed, TEIA's 'new media' format and e-newsletter suggests that it serves as a media-organizational actor-network compared with OURs' dispersed, more decentralized member-directorate. This suggests a dependency on ICTs within TEIA's work, affirmed by its organizational history. This history includes TEIA's roots as a digital organization; its informational mission and its critical e-newsletter format. Certainly, ICT practices have long been comprehensively intertwined with TEIA's work—despite its relatively young associational age—whereas at OURs, ICTs have served as complements to its extensive grounded and grassroots corpus of practices. That such distinct groups exist to address differing civic needs is perhaps a testament to the complexity of Taipei and Taiwan's civic space.

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Ironically, while TEIA's practices have increasingly become focused on grounded activities (e.g. Land Trust, Eco-working Holiday), OURs staffers have become increasingly involved in administering its ICT-linked practices such as social media, blogging, and an online networking linked to a GIS-map experiment ('Burning Map'). In addition, both groups have an activist and anti-establishmentarian bent—illustrated by their persistent work with local communities and support to smaller civic associations, as well as holistic planning and environmentalism. Arguably these approaches may have been shaped by the lingering post-Authoritarian polity of Taiwan where Post-1987 associational formations have retained a decidedly anti-authoritarian and anti-establishmentarian bent. Perhaps paradoxically both TEIA and OURs also remain at least partially dependent upon various levels of government, or government agency contracts for at least some of their activities and projects. And yet, the importance of grassroots and community-based approaches—both amongst longstanding and recent groups—in associational formations in Taipei serves to distinguishes the civic space from that of Hong Kong and Singapore, where civic associations are arguably more conformist, institutional and arguably pandering to corporate, or charitable agendas.

Both Taipei civic cases examined in this study, in their own right, have also arguably strengthened their civic associational roles in the new and 'green public sphere'—with TEIA's extensive online media activities and volunteer reporters; and OURs' uses of social media as both an online professional forum on urban issues, as well as a space for digital agit-prop approaches. These approaches are again illustrative of the diverse digital venues for environmental discourse and deliberations in Taiwan's civic-cybersphere. TEIA's ICT-linked support for smaller civic associations (with their website assistance); and OURs' experimental uses of social media as social 'satire' or 'agit prop' activist and mobilization tools also demonstrates differing paths to civic-cyber activism and civic environmental education.

Spatially, TEIA's ICT-linked work has included remediating (and 'translating') environmental news from within Taiwan and globally. This distinguishes the linguistic differences shaping civic space in Taipei from Hong Kong and Singapore where global English language mass media has interpenetrated civic spaces (more so in Singapore) in comparison to the dominant Mandarin (along with Hoklo, Hakka and Aboriginal) language mass media in Taipei. Whilst OURs' local-region focus, with the Burning Map Network and other ICT practices, illustrates how ICTs can spatially transform cognition from a site-specific to a city-regional scale of focus—that experimental approach apparently did not attract significant users or online interest. Still, arguably, their approach has been part of the shared digital memes evident amongst civic associations in Taipei with crowd sourced innovations such as PeoPo media (through Taiwan Public TV) and Eco-Life (through the Taiwan Environmental Protection Agency) incorporating multiplexed spatial elements (i.e. map mash ups) in their digital designs. Both Taipei civic groups' work also demonstrates (despite their 12 year age differential) forms of idealism tempered with pragmatism that is perhaps unique to post-Authoritarian civil society in Taiwan. This was notable in the idealism that OURs expressed for its 'Burning Map network' (despite its low number of website visitors)—as both an eco-city initiative and a tool for envisioning a more livable city; and it was evident in TEIA's vision for greater citizen access to environmental information and knowledge as pathways for civic empowerment.

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d) The broader civic environmentalist context and reconfigurations of civic space

Another analytical perspective on the six case studies would situate them within the broader family of civic environmentalist groups located in the three tiger cities. A number of findings from Chapter Four, for instance, discussed observations from civic associations which draw upon the wider pool of in-person and telephone interviews that were conducted for this investigation in Hong Kong, Singapore and Taipei. This wider group of organizations where interviews were conducted with members, directors, or staffers (predominantly from civic environmental associations) has been identified in Appendix 1.

Table 8.1: **The degree of importance attached to various practices in civic associations' current work (survey question #2) (n=27)**

Practices	high	moderate	low	none	n / a
watchdog practices	51.9%	25.9%	18.5%	3.7%	0.0%
natural / built conservation	63.0%	22.2%	14.8%	0.0%	0.0%
information & education	77.8%	11.1%	7.4%	3.7%	0.0%
scientific research	25.9%	40.7%	22.2%	11.1%	0.0%
policy lobbying	55.6%	22.2%	18.5%	0.0%	3.7%
grassroots organizing	40.7%	22.2%	29.6%	7.4%	0.0%
civil society alliance-building	29.6%	40.7%	25.9%	0.0%	3.7%
government partnerships	33.3%	33.3%	22.2%	7.4%	3.7%
green / social enterprise	37.0%	25.9%	33.3%	3.7%	0.0%
business partnerships	18.5%	29.6%	29.6%	18.5%	3.7%

Source: Question #2, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia'. The question was phrased as follows: "How important are each of these practices in your association's current work and activities? High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable" (Sadoway 2011).

In addition, as the methodological details in Chapter Two previously noted, a tri-city cross-sectional survey was conducted in 2011 amongst civic environmental groups in the three tiger cities. Amongst the 27 responses from civic environmental groups, survey responses were received from all six of the groups featured in this investigation and three particular extracts from that survey most pertaining to the info-sociational model have been incorporated as comparative features in this study. These data have been co-located with the individual cases in Chapters Five through Seven of this investigation. The three survey question extracts each focused upon: a) *the degree of importance attached to various practices in the civic association's current work* (survey question #2); b) *the duration of civic associational uses of ICT tools or platforms, expressed in years* (survey question #4); and c) *the degree of importance attached to the overall uses of ICTs in the civic association's organizational-participatory-spatial practices* (survey question #17).

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Table 8.2: **The duration of civic associational uses of ICT tools or platforms, expressed in years since 2010-11 (survey question #4) (n=27)**

Use of ICT tools / platforms	11+ years	9-10 years	7-8 years	5-6 years	3-4 years	1-2 years	0-1 years	non use	unsure
social media page	0%	0%	0%	18.5%	22.2%	29.6%	7.4%	18.5%	3.7%
micro-blog	0.0%	0.0%	0.0%	0.0%	11.1%	25.9%	7.4%	48.1%	27.4%
active web site	18.5%	7.4%	14.8%	18.5%	3.7%	18.5%	3.7%	7.4%	11.1%
GIS map	0.0%	0.0%	0.0%	3.7%	0.0%	11.1%	0.0%	81.5%	3.7%
videos	14.8%	3.7%	22.2%	7.4%	14.8%	3.7%	7.4%	18.5%	11.1%
web logs (blogs)	3.7%	0.0%	7.4%	18.5%	18.5%	25.9%	0.0%	22.2%	3.7%
email discussion list	18.5%	7.4%	18.5%	7.4%	18.5%	3.7%	3.7%	18.5%	3.7%
web conferences	0.0%	0.0%	7.4%	3.7%	11.1%	14.8%	0.0%	59.3%	3.7%
e-newsletters	14.8%	7.4%	11.%	3.7%	14.8%	7.4%	0.0%	40.7%	11.1%
SMS / phone alerts	3.7%	0.0%	0.0%	14.8%	14.8%	0.0%	7.4%	51.9%	0.0%
hosting e-petitions	0.0%	3.7%	7.4%	14.8%	3.7%	11.1%	0.0%	51.9%	11.1%
formatted e-letters	14.8%	0.0%	14.8%	7.4%	11.1%	11.1%	3.7%	25.9%	11.1%
online surveys or polls	3.7%	7.4%	11.1%	18.5%	0.0%	11.1%	0.0%	48.1%	0.0%
online forums	3.7%	7.4%	7.4%	0.0%	14.8%	14.8%	7.4%	37.0%	11.1%

Source: Question #4, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia.' The question was phrased as follows: "As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms? In 2001 or earlier; in 2001-02; in 2003-04; in 2005-06; in 2007-08; in 2009-10; in 2011; we do not use this ICT / or no longer use; not sure" (Sadoway 2011).

Besides the individual civic environmental associational responses to the troika of questions noted above (from the six case study groups), an additional set of comparisons to the wider pool of survey responses can provide additional insights about the context of ICT-linked practices amongst civic environmental groups in Hong Kong, Singapore and Taipei. However, it is crucial to note that the overall survey of 121 civic environmental groups was designed as a triangulation tool and not as a statistically significant mass survey or a census of all civic environmental groups in the tri-city settings. An addition key caveat before discussing some of these survey findings is the overall low response rate (22.31%, n=27) for this survey-questionnaire. Therefore these response summaries should only be viewed as a supplementary triangulation yardstick or a rudimentary small cluster sample which serves as a basic cross-reference at best.[359]

Related to the broader survey of civic environmental groups, three comparative tables summarizing the survey responses have been included here. These provide some basic insights when compared to the six cases discussed throughout this Chapter. For example, Table 8.1, indicates how amongst this wider cluster of civic environmental groups surveyed 'information

[359] As was noted earlier in Chapter Two: "In total, the survey was sent to multiple member emails in 121 distinct groups or organizations and can be disaggregated as: 67 civic environmental organizations in Hong Kong; 25 organizations in Singapore; and 29 organizations in Taipei. Valic responses were included from online replies received from June 16, 2011 to September 10, 2011. In total 27 valid responses from distinct civic environmental associations in the three cities were received within the three month timeframe (a 22.31% response rate); and this included responses from all six of the groups portrayed here in this study's cases of civic environmental associations. Survey responses can be disaggregated as Hong Kong 40.7% (n=11); Singapore 29.6% (n=8) and Taipei 29.6% (n=8)."

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and education' stood out as a relatively high importance work-related ICT practice amongst the respondents (with 77.8% of the sample identifying this as of 'high' importance).

Table 8.3: **The degree of importance attached to the overall uses of ICTs in the civic associations' organizational-participatory-spatial practices (survey question #17) (n=27)**

ICT-linked area of use	high	moderate	low	none	n / a
strengthening internal activities	33.3%	48.1%	11.1%	3.7%	3.7%
strengthening external activities	74.1%	22.2%	0.0%	0.0%	3.7%
creating new spaces for public participation	81.5%	7.4%	7.4%	0.0%	3.7%
tools for civic activism & mobilization	63.0%	14.8%	14.8%	0.0%	7.4%
enabling greater geographic reach	70.4%	25.9%	0.0%	0.0%	3.7%
increasing potential alliances	48.1%	22.2%	22.2%	3.7%	3.7%

Source: Question #17, 'Follow-up survey, 2010-11 urban sustainability NGOs in Asia' (Hong Kong, Singapore, Taipei). The question was phrased as follows: "In your opinion how important are the overall uses of ICTs to your association in the following areas: [areas noted above in far left column] High importance (3); Moderate importance (2); Low importance (1); no importance (0); not applicable." (Sadoway 2011).

Perhaps more interestingly is the diversity of ICT-linked practices identifiable across this small sampling of civic environmental groups. For example, while few of the groups that responded were actually employing tools such as GIS-mapping; web conferencing; or hosting e-petitions, for example—a sizeable number did claim to have an active website, social media page and employ online videos as ICT uses during the past eleven years or more (to 2000 or before). Details on the use duration of various ICT tools and platforms over the span of a decade are shown in Table 8.2. Even within this relatively small sampling of civic environmental groups, the use durations by different tools or platforms suggests possible trends—such as the more recent rise of blogging and social media uses both peaking in 2008-09.

Besides partially relating to the *how* research question in this investigation—as the responses above about the use duration of ICTs tools or platforms partially suggests—the tri-city survey also provides some comparative insights as to *why* civic environmentalists might be employing ICTs. Such insights may be found in the summary of responses in Table 8.3 for a survey question that examines the degree of importance attached to various ICT-linked practices—essentially listing the key organizational, participatory and spatial elements in the info-sociational model. Interestingly, amongst the survey responders the uses of ICTs for creating 'new spaces for civic participation'; for 'strengthening external activities'; and for 'enabling greater geographic reach,' were considered of relatively high importance. For this question, the survey findings have some parallels to findings amongst the six case studies—particularly the identification with the importance of the new (public sphere) spaces, as this Chapter will further examine.

In sum, the 2011 survey drew-upon a wider pool of civic environmental groups in Hong Kong, Singapore and Taipei—and it has provided some additional basic context for understanding the case studies examined in this investigation. The key caveat, however, is that this sampling is not statistically significant enough to conclusively identify firm trends or patterns. A more fruitful line of inquiry returns us to examining in greater comparative detail the findings from the six civic environmental sites at which this investigation has focused its empirical energies upon.

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8.2.3 Changing civic spaces and changing civic associations

The discussion earlier in Chapter Four identified the changing socio-economic patterns across the three tiger city spaces, including the transition from being primarily manufacturing and exported oriented urban hubs, to becoming advanced service industry economies. This shift has also been illustrated in the greater role that informatics and ICT-linked activities have played in local economic development priorities and strategies; as well as manifest in e-governance initiatives (including e-engagement and political campaigning attempts) in Hong Kong, Singapore and Taipei (again ,see Chapter Four for details). The three tiger cities have been seen as 'liminal urban spaces' interconnecting East and West socio-cultural-political, economic and informational zones or nexus where exchanges of goods, services and ideas is occurring. In this context, what role do civic associations and ICTs play in relation to longstanding local questions about the urban environment? The remainder of this section focuses upon six points about civic space reconfigurations (and their implications) that the findings about tiger city civic environmentalists' ICT practices suggests.

First, the ICT-linked changes in civic space notable in this investigation have arguably has been most identifiable in Singapore where civic environmental associations—despite their relatively still constrained practices and stances on activism—have identified taking advantage of openings in civic cyberspace (e.g. 'light touch' Internet regulations); and have witnessed a growth in green blogging and new media, as well as civic-cyber alliance formations, as the two cases in Chapter Six identified (also see: Tam 2006; Tam 2007). Certainly these types of changes in civic cyberspace have also occurred in Hong Kong and Taipei—both historically witnessing even earlier and more radical forms of street actions and activism and forms of cyberactivism than in Singapore. However, in Singapore the transformations have arguably been more significant because they have represented an expansion of existing civic socio-political space compared with longstanding restrictions on physical assembly, civic associational life and political openness. Although too premature to fully assess, in part these changes may also relate to ICT uses in electoral politics along with cyber freedoms that have provided openings in digital discourse and associational life (as was noted in interviews with both GDS and NSS). Whereas in Hong Kong and Taipei—where both pragmatic and 'hardened' forms of street level civic activism and diverse associational life have already relatively freely associated and co-existed with vibrant digital public spheres, cybercultures and cyberactivism (e.g. see Ip 2009; Kuang 2009; Lam & Ip 2011; Zheng 2011)—in Singapore these changes in civic space appear as perhaps more dramatic and even critical. These general observations also suggest that ICTs are at least maintaining and complementing (or augmenting) the work of existing civic movements and associational roles in the civic space of all three tiger cities.

Second, the two Hong Kong cases both illustrated the importance of the use of ICTs for networking and situated projects in the relatively open associational life of Hong Kong. Interviews with both the CA and DHK identified with the issues noted earlier in the discussions on changing physical 'civic space' in Hong Kong—namely harbourfront and heritage issues—and they also highlighted these groups' roles in ICT-facilitated alliances, especially related to environmental or land use issues. Both groups have carefully also observed (or peripherally supported) cyberactivist efforts noted earlier, such as the Tai Wan Sai Long campaign which

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stood out as a powerful example of social-media related mobilization (Lam & Ip 2011). DHK's use of digital letters (OPOL campaigns) and CA's longstanding 'critique and counterplan' when digitally mediated, suggested that ICTs have served as additional tools for supporting civic environmentalists' respective causes and concerns and been mediated in Hong Kong's relatively open digital public sphere. While both groups identified the criticality in face-to-face networks, they also recognized the growing importance of Hong Kong's new media movements (such as In Media-HK and other digital activist groups) (Ip 2009; Lam & Ip 2011). In sum civic associations such as CA and DHK—though both differing on issue and actor-networks and the manner in which they have employed ICTs—have arguably helped to expand both the grounded and digital public sphere with their ICT-linked activities. Alongside other types of social media or digital movements in both cities, civic environmental groups are thereby working on the whole to enhance civic space in (quasi)democratic Hong Kong.

Third, the cases of NSS and GDS provided interesting contrasting perspectives on the potentially changing nature of civic-cyberspace in Singapore. Although civic activism and civic space in Singapore has been relatively constrained compared with post-colonial Hong Kong or post-authoritarian Taipei—as Chapter Four identified—the potential openings that cyber activism appears to have pushed for (through new media, blogging and civic-cyber activist efforts) and to some degree achieved, may be creating new openings for civic environmentalists to experiment with new modes of activism (both on and offline). No doubt GDS and NSS both illustrated 'respectable' forms of civic environmentalism careful not to 'rock the boat' excessively. Yet, while these openings may also be tentative or temporary—given the potential for state retraction of the 'light touch' e-regulatory reforms, or a revived pressures for an 'apolitical' civil society with OB markers—the context of the recent Singapore General Election (2011) also suggests the growth of a more vocal and confident oppositional forces influencing both the grounded and digital public sphere (and noted in discussions with both GDS and NSS). While the success in the 'Green Corridor' campaign can at least be partially attributed to the multiplexing efforts amongst new green cyberactivism and the work of traditional civic environmental groups like NSS, the civic space limitations for voicing alternatives to 'business as usual' development may be illustrated by the inability of the Bukit Brown civic-cyber campaigners to sway the Singapore state. In the later example, despite the promising civic-cyber coalition that the Bukit Brown campaign involved—including a lively website; OPOL tactics, and cyberpetitioning—the decision to build a highway appeared to involve a traditional 'top-down' agency agenda with little consultation or desire to revisit the 'plans on the books' of the relevant agencies. While more traditional civic environmental groups like NSS have appeared to be taking the growing public interest and use of ICTs in stride—undertaking initiatives like a website migration and smartphone apps (with partial state grant support)—newer groups like GDS arguably have 'associational leapfrogged' by employing ICTs to enhance their visibility, multi-mediated presence and actor-networking. This has been done by employing basic assemblages of effective ICT tools, particularly for multiplexed remediation. Despite the techno-optimist gloss and hype about 'information society' and 'knowledge economy' which sometimes pervades state-speak in Singapore—the research has identified a continued commitment to face-to-face and grounded environmental actions in local civic space

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as well as a some potential for new forms of civic-cyber activism linking to a new generation of on and offline environmentalists.

Fourth, the dynamic and sometimes divisive politicization that has shaped civic space (and life) in Taipei provided the backdrop to the work of OURs and TEIA. Although these two groups featured very distinct tactics and activities in relation to their practices, they both arguably have been shaped by the post-authoritarian civil liberties which have enabled free association and an eventual acceptance of street (and more recently virtual) mobilizations in Taiwan. OURs' unhesitant uses of ICTs for satirical and agit-prop tactics (as well as for physical mobilizing) illustrates the importance that this group continues to place on urban socio-environmental justice and an action-orientation. Interviews with both groups also identified a sense of fearless outrage about issues—of the type that prompted the genesis of both of these civic associations—which continues to motivate their memberships, staffers and some publics. For example, TEIA spoke about the need to redress misinformation and a plain lack of open public information and consultation on environmental issues in Taiwan. And OUR's work employed the language of 'hope' and dreams of an alternative city, exemplified by their experimental Burning Map Network and their many community-based planning approaches. Their work suggested that—despite the obvious institutionalization and professionalization—there remained an activist movement 'edge' amongst some civic associations in Taipei. As was noted earlier, this edge is indicative of the distinct socio-political and historical differences shaping civic space in Taipei as compared with Hong Kong and particularly Singapore. Despite the financial and staffing instabilities of civic associational life in Taipei, these two cases also identified how members, staffers and directors were still driven by a vision for change. In this respect ICTs—despite their critical importance in the case of TEIA's new media-centric agenda—appear to be seen as simply another 'tool' or 'platform' in the bigger picture of transformational activism. Both TEIA and OURs also identified the importance of linking-up with grounded networks in their online practices. With TEIA, for instance, this involved providing ICT assistance to smaller civic associations; and with OURs it meant continuing to network through social media (and nominally via the Burning Map experiment); and via its longstanding professional and community (face-to-face) social networks. It remained less clear how these two civic groups saw themselves as relating to the seemingly anarchic, situational forms of what might be termed 'impulsive, yet adaptive cyberactivism' apparently emergent in Taiwan (see Zheng 2011, for example). However, given OUR's and TEIA's experiences to date, an innovative path for continued interfacing with these emergent movements will likely be discovered. These nascent forms of civic-cyber activism in Taiwan (discussed further in Chapter Four) suggest that civic and civic cyberspace on the Island remains a diverse and contested terrain where social movement and associational innovation continues to take place.

Fifth, the six cases demonstrated the divergent and sometimes contradictory forces that appeared to be on the periphery of (re)shaping formally organized civic associations in the tiger cities—as relatively stabilized civic organizational forms compared with novel and nascent movements or counterpublics. On the one hand, the historical imprint and resonance—particularly in Taipei and Hong Kong—of post-authoritarian or post-colonial civic movements which have shaped civic environmental 'issue networks' continues to play an important role,

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particularly with the 'older groups' like OURs and CA. On the other hand, new types of coalitions or alliances which mix grounded activism with cyberactivism are reconfiguring 'issue networks' and the way these are viewed not only by civic associations, but by the public, in mass media, the government and business sector. Here again the shift in Singapore appears to be significant with the recent formation of a civic coordinating group (Green Roundtable); e-discussion groups (like the Yahoo environmental e-discussion group); and nascent civic-cyber coalitions (like Bukit Brown and the Green Corridor) all suggesting that apolitical and isomorphic, insular or compliant civil society may be becoming a thing of the past as issue-actor-networks reshape civic space and the civic polity of that city-state. Although similar alliance-building mechanisms and processes were evident in Taipei and Hong Kong (as the interviews indicated), the recognized need and actualization of alliances has already arguably long been embedded in the practices of civic associations in those two cities. The cases arguably also support Mulvihill's (2009) contentions about changing or paradoxical environmentalism, by suggesting the influence of single-person organizations, backed by multiplexed networks (e.g. DHK, GDS); nascent civic alliances augmented by ICTs and sometimes seeded (or supported) by stable civic associations (e.g. OURs; DHK; NSS); and core or 'hub' groups joining, alongside peripheral or 'spoke' groups supporting nascent civic-cyber alliances (e.g. GDS, NSS, DHK). Worth watching will therefore be how existing civic associations continue to relate to nascent forms of civic-cyber activism (including environmental activism) which is appearing in all three civic spaces but is not always defining itself exclusively as environmentalism but rather as digital culture, new media movements and situational digital activist formations (see Kuang 2009; Da Rimini 2010; Lam & Ip 2011).

Sixth, it is also worth recalling that at least four of the cases portrayed in this investigation are heavily involved in the ongoing process of articulating counterplans that related to contested spatial and environmental issues in their three respective settings (DHK, NSS, CA, OURs). For three of these groups (NSS, CA and OURs) these counterpolicy articulations have been a longstanding part of their core work since their origins. This has involved basic grounded and face-to-face forms of working with communities, committed scholars and researchers to identify alternative plans and policies—and to thereby shape an alternative environmental polity. While the advent of ICTs tools and platforms has suggested some practices *potentially* more inclusive, or more open to building broader public awareness of wider issues (e.g. as the uses of GIS by four case groups has demonstrated) the politics of changing civic cyberspace remains deeply intertwined with the politics of knowledge, power and space in all three of the tiger cities.

In sum, as Chapter Four has discussed, the affluent Asian tiger cities have gone further than many other parts of the globe in adopting and employing ICTs—including amongst their civic associational actor-networks. This ICT density and intensity does, however, underlines the paradoxes of face-to-face cultural traditions versus nascent face-to-Facebook practices, particularly in relation to strong state and market-driven technological desires and imperatives. This posits ICTs as both a potential problem and a potential opportunity and it foreshadows the discussion on 'cyberspaces of hope'—found later in this Chapter; and also in the final Chapter of this investigation. The paradoxes of ICT practices in fast changing civic spaces also

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underscores the importance of locally situated civic actor-networks and of emergent city-specific cybercultures (including civic environmental cybercultures). Whether the longstanding commitments of civic associations or the ideas and ideals amongst newly emergent cybercultures—the three tiger cities have witnessed an array of alternative ICT practices, policies and counterspaces that appear to be serving as challenges to the hegemonic dominance of cyberspace and civic space by an entanglement of corporate-state actors.

The discussion above has primarily related to the changing nature of civic space in the three tiger cities, however, this topic is by no means contained within or limited to the first theoretical proposition. Although the remaining sections of this Chapter relate to civic associational ICT praxis and cyberspaces of hope—they too will touch upon topics which identify how civic space is indeed being (re)shaped and reconfigured through the diverse digital practices of individual and networked civic associations. The next section—drawing on the Second Proposition—relates the study's empirical findings to ICT-linked organizational, participatory and spatial transformations in civic associations.

8.3 Findings about civic associations in relation to *Proposition Two*

The previous section discussed the investigative findings in relation to changing civic space in the three tiger city settings. This section focuses on the findings in relation to associational-centred ICT-linked practices, the theme of Proposition Two. Besides featuring ICT practices as varied as green new media; urban environmental 'hot spot' GIS map mash-ups; social media and digital discussion groups; and multiplexed on/offline networked activism—the six associational cases featured in this investigation each varied considerably in their organizational structures, histories, 'issue networks,' and uses of digital activism. Some of these differences and similarities may be evident in a relational map of the six cases (and cities) when compared against the three key ICT-linked *organizational-participatory-spatial* transformations (Tables 8.4, 8.5, 8.6). Such a matrix comparison—while providing a helpful overall 'mosaic' of the array of digital practices of each civic association in relation to the info-sociational model's components—does little, however, to explain the differences and similarities between the cases. In other words the mosaic of info-sociational practices contributes to answering the *how* research question as identified in Chapter One, but it does not yet get at answering the *why* research question formulated in the same Chapter. The purpose of this section will therefore be to examine some of the cross-cutting themes that might both connect and distinguish the cases of civic environmentalists employing ICTs in the tiger cities.

Examining the association-specific particularities of ICT-linked organizational, participatory and spatial practices is crucial because it provides civic associational practice (and practical) insights into possible ICT-linked *organizational* transformations—including potentially towards *knowledge* communities and issues networks in the digital city (Horton 2005; Laguerre 2005; Bach & Stark 2006; Marres 2006, 2010); towards potential ICT-linked *participatory or power reconfigurations* in the global and green public sphere (Yang & Calhoun 2007; Castells 2008) and in cyberactivism (Pickerill 2003); and towards potential ICT-linked *spatial transformations*

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in associational geographic reach and the scope of civic-cyber alliances, 'communities of practice' and 'civic intelligence' (Schuler 2001; Horton 2004; Sassen 2004, 2005).[360] An info-sociational approach therefore can arguably provide insights into how civic associational ICT-linked practices relates to transformations in knowledge, power and space.

In a cross-cutting info-sociational approach, insights are moored to understanding the practices and actor-networks of civic associations. This section will employ such an approach in the eight sub-sections below by focusing on a set of cross-cutting issues that are explicitly tied to the info-sociational model. The first cluster of three sections that follows are connected to ICT-linked organizational practices; the second cluster, with three sections, ties to ICT-linked participatory practices; and the third cluster, consisting of two sections, relates to ICT-linked spatial practices.

[360] As Chapter Three has already detailed, an info-sociational approach posits that transformations in the ICT-linked practices of civic associations hypothetically involves: *(a) organizationally-related, multimodal ICT-linked transformations in internal and external practices; (b) participatory, multiplexed ICT-linked reconfigurations of the public (cyber)sphere and cyberactivism; and (c) spatially-related multiscalar transformations and alliance formations.*

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Table 8.4: **Comparing the info-sociational model's 'ICT-linked organizational practices' across case studies in the three Asian tiger cities.**

		Hong Kong		***Singapore***		***Taipei***	
		Designing Hong Kong (DHK)	**Conservancy Association (CA)**	**Green Drinks Singapore (GDS)**	**Nature Society (Singapore) (NSS)**	**Taiwan Enviro. Info. Association (TEIA)**	**Organization of Urban REs (OURs)**
ICT-linked organizational practices	**Internal practices**	- DHK is shaping an urban issues 'knowledge community' and a wider 'issue network' (both internally and externally) - DHK, as an early adopter of ICTs (e.g. e-news, email lists) has, during its short lifespan, used these (internally and externally) to reinforce 'issue networks'	- CA's issue- and actor-networks and its ICT projects are shaped by its historical role in Hong Kong conservation and as environmental educators - CA's organizational adaptations are shaped by a 'redistributory and recombinant logic' (multiplexing) which blends grounded initiatives with virtual practices	- GDS as a 'socio-technical assemblage' (of networking people and technologies) employs a basic blog/website, several social media platforms, microblogging and multimodal news feeds across platforms - GDS's Founder serves as an 'obligatory passage point' (internally & externally) for Green Drinks in Singapore	- NSS's volunteers have served as tech savvy 'obligatory passage points' by connecting the Society to tools and platforms (e.g. websites, blogs, social media, apps) - NSS's 2010-11 website migration (and consolidation of subgroup websites) involved techno-political issues of centralization and decentralization	- TEIA started as a digital organization and a type of green new media 'knowledge community'(and 'green issue network') involving staffers and volunteer environmental reporters - TEIA has increasingly emphasized in-person contact amongst its staff and volunteers as well as through its ground-level projects (e.g. 'Land Trust' and 'Eco-Working Holidays')	- OURs' roots in urban spatial justice activism have shaped its 'issue network' and function as an urban design-policy 'knowledge community' - OURs' staff time (and new ICT specialist) has increasingly been spent on e-tools and social media
	External practices	- DHK engages the 'spider web' of face-to-face & virtual network relations with its CEO as a keystone actor / 'obligatory passage point' (OPP) - DHK has employed ICT tools (videos, email lists, websites) for networking and mediating its urban design concerns	- CA's external (and internal) ICT-linked practices have involved 'pragmatic translations' (cost and issue-driven) of technological uses - CA continues to modify its ICT experiments both by dropping (e.g. BBes), and adding tools (e.g. social media, 'Green Messengers' e-news)	- GDS ties into its existing global / regional actor-networks as it 'translates' the 'Green Drinks' concept / idea into a Singaporean context - GDS's 'issue network' is being shaped by growing ties with local civic environmentalists and through its regular / monthly 'events' (face-to-face gatherings)	- NSS's ICT-linked tools complement its grounded work and illustrate a 'permanently beta' / experimental civic actor-network. - NSS's website migration also highlighted concerns about organizational image and having a single, centralized fundraising point	- TEIA acts as a environmental informational 'obligatory passage point' in Taiwan by assembling and (re)mediating transmitting its daily e-news to environmentalists and allied movements - TEIA's work involves information 'translation' via synthesis, filtering and mediating news	- OURs experiments with ICTs emphasize externally-oriented 'contiguous experiences'—such blog/social media news tied to grounded events; linking spatial images to text inputs with a GIS map and inviting public commentaries

Sources: Chapters 5, 6, 7 in this investigation.

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Table 8.5: **Comparing the info-sociational model's 'ICT-linked participatory practices' across case studies in the three Asian tiger cities**

		Hong Kong		***Singapore***		***Taipei***	
		Designing Hong Kong (DHK)	**Conservancy Association (CA)**	**Green Drinks Singapore (GDS)**	**Nature Society (Singapore) (NSS)**	**Taiwan Enviro Info Association (TEIA)**	**Organization of Urban REs (OURs)**
ICT-linked participatory practices	**Public sphere reconfigurations**	- DHK's e-newsletters employ multimodal links (to issue / design links, e-letters, video clips) as well as to face-to-face public events (e.g. CitySpeak) or activities which shape the 'green public sphere' - DHK's specialized websites or links (e.g. Public Space Issues; Harbourfront Design) invites the public to upload images; comment; vote on issues / designs	- CA's social media, e-news, video clips, tree blogging, webpage news interactive features on its several online maps (e.g. inviting comments on its Hong Kong Rural Devastation (HKRD) multimodal map) are all illustrative of the participatory potential of digital tools in Hong Kong's 'green public sphere'	- GDS's social media platforms and micro-blogging illustrate the use of multimodal media multiplication in the e-public sphere - GDS's monthly events (such as its 'Green Drinks Election Special') although primarily face-to-face, with some ICT mediation, is continuing to shape Singapore's 'green public sphere'	- NSS's traditional modes of publicity have been deepened or extended via online access (in the 'green public sphere') and its new consolidated website provides a window or point of contact with the Society's collective 'civic environmental intelligence' - NSS's 'Nature Forum' e-discussion group and social media chat exemplifies 'communities of practice'	- TEIA's 'new media' approaches involving translating, synthesizing and remediating environmental and civic news illustrates a 'new public sphere' formation - TEIA trains voluntary civic reporters or editors in covering environmental issues; and its work also combines education and awareness of issues such as local habitat protection	- OURs employs social media to 'spread' and 'exchange' information on urban issues and organize citizens to attend public hearings—illustrative of the 'new' and 'green public sphere' - OURs 'Burning Map Network' was intended to advance debate about urban affairs (e.g. spatial justice, planning)
	Cyberactiviism	- DHK engages in 'soft' forms of cyberactivism such as e-alerts to email subscribers, OPOL campaigns, e-lobbying - DHK has supported a multiplexed alliance to raise awareness of HK public space issues (also a 'spatial transformation')	- CA's overall use of ICTs have served to support its longstanding campaigns rather than commonly being used in direct cyberactions - CA's ICT-related projects have served in student and citizens' environmental education	- GDS's has supported Singapore digital activist alliances (e.g. 'Green Corridor' ex-KTM rail to parkway conversion campaign) providing issue links and news on its blog/website; and inviting alliance issue speakers to speak at monthly events	- some NSS members in individual initiatives been involved in 'speed of light' social media and green blogging tactics - NSS has supported or allied with emergent civic-cyber urban environmental or heritage campaigns	- TEIA has supported smaller civic associations' ICT needs and its volunteer reporters and editors have filled the gap in media 'blind spots,' and information deficits by focusing on environmental issues in Taiwan and beyond	- OURs has employed social media satire developing a digital agit-prop site to critique aspects of the 'Taipei International Flora Expo' and to advocate its 'eco-city' alternatives

Sources: Chapters 5, 6, 7 in this investigation.

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Table 8.6: **Comparing the info-sociational model's 'ICT-linked spatial practices' across case studies in the three Asian tiger cities.**

		Hong Kong		***Singapore***		***Taipei***	
		Designing Hong Kong (DHK)	**Conservancy Association (CA)**	**Green Drinks Singapore (GDS)**	**Nature Society (Singapore) (NSS)**	**Taiwan Enviro Info Association (TEIA)**	**Organization of Urban REs (OURs)**
ICT-linked spatial practices	**G/local spatial transform.**	- DHK seeded global and local interest in its multiplexed (online / physical) 'Harbourfront International Design Competition' - DHK briefly experimented with a digital map tool and has since supported a local media firm's 'Citizen Map' efforts	- CA's 'Eco-Protector' initiative illustrates ICT-mediated g/local networking about restoration ecology (as part of a global environmental campaign) -'Mission Green' and the HKRD Map illustrate scalar-shifting from the site specific to the urban regional level	- GDS's local and global networks include building and maintaining regional alliances with Green Drinks affiliate groups located in Asia (and supplemented through email use)	- NSS's digital map / GIS 'Birdwatching Hot Spots' allows for a site specific and city-region overview and assists in understanding species and local habitat characteristics and relationships - NSS's beta smart phone 'apps' will feature bird guide visual data and locational (GPS) links	- TEIA's multiscalar environmental news coverage includes a wide range of both Taiwan and global environmental issues - TEIA's Environmental Trust has helped to build global alliances & TEIA's reporters have provided coverage at global environmental events	- OURs' 'Burning Map' has been intended to support both in person and online awareness about site specific and urban (bio)regional issues in the Taipei basin, including climate change and 'urban heat island' issues
	Associational alliance formations	- DHK's civic alliances and network building are shaping novel forms of 'civic environmental intelligence' (i.e. an awareness and experiences in urban land use, conservation and design campaigns)	- CA's longstanding networks have enabled it to continue to form or join alliances (augmented via ICTs) on campaigns of common cause and have assisted in linking-up with 'communities of practice' on key civic environmental issues	- GDS has plugged into local issue-networks and 'communities of practice' including membership in the civic environmental associational group the 'Green Roundtable'; as well as in moderating a Singapore-based and focused green e-discussion group	- NSS has linked with allied local actor-networks and with 'communities of practice' both physically and digitally in campaigns such as the 'Green Corridor' campaign (2010-2011); and the 'Bukit Brown' campaign (2011-2012)	- TEIA (re)mediates regional and global green civic news—including through international friends and allies— and it has built a network of alliances to gather news from Taiwan civic environmental groups as well as providing web/ICT support to small civic associations	- OURs' grounded activism continues to drive its pragmatic (and experimental) responses to ICT practices and this involves building alliances with local civic associations and citizens in need of legal, design or policy assistance

Sources: Chapters 5, 6, 7 in this investigation.

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8.3.1 Organizational practices: age-related variations amongst civic associations

The issue discussed here relates to ICT-linked internal and external organizational practices as identified in the info-sociational model. The case pairings in each of the three tiger cities were selected in order to examine possible variations in ICT-linked practices amongst differing ages of civic associations. One of the drivers in making coupled case distinctions between 'younger' and 'older' civic groups was a fieldwork observation which occurred in Taipei during the first round of interviews in Spring 2009. The observation at that time was that ICT uses compared with physical or face-to-face activities appeared to be being de-emphasized or de-prioritized over time amongst several groups which were initially founded as heavily digitally reliant rather than emphasizing grounded activities and face-to-face office settings (e.g. TEIA and TEAN). By contrast, older or longstanding groups (e.g. OURs) which had not employed ICTs as extensively in their early formations (or slowly introduced them over time) appeared to be increasingly experimenting with their uses at later stages. To better examine this issue the concept of age-related case pairs was incorporated into the comparative case method design employed in this investigation (see Chapter Two for details).

This section therefore serves to compare findings linked to age-related variations amongst the six civic environmental associations in this investigation. For example, key *differences* between the three 'younger' or more recently formed civic groups (DHK, GDS, TEIA) and the three 'older' or more longstanding civic groups (CA, NSS, OURs) that were notable in empirical findings related to: distinct obligatory passage points (OPPs); digital office arrangements; issue network flexibility versus relative rigidities; and some uses of ICTs in g/local spatial reach. On the other few age-related differences were notable regarding ICT-linked public sphere and cyberactivist practices. These distinctions between the younger and older civic groups are further analyzed in the ten point discussion which follows:

First, related to internal organizational practices, 'obligatory passage points' (OPPs) (Callon 1986; Bach & Stark 2005) were more identifiable particularly in the heavily individually-managed recently formed groups such as GDS and DHK (except for TEIA, where the emailed e-news facility itself was seen as a mediating OPP). By comparison 'longstanding' groups with their more complex organizational structures featured OPPs embedded as gatekeeper committees or in the person of tech savvy keystone individuals. This also identifies that ICT-linked deliberations and reflexivity about technological choices, capacities or impacts notably varied between the more recent associational formations (which could be characterized as rapid or situational adopters) than with the established groups (characterized as deliberators). In part these differences may have been a function of complex, longstanding organizational arrangements in the older groups when compared with more basic organizational formats in the newer groups. A number of these distinctions are notable in Table 8.2.

Second, 'younger' group formations (DHK, GDS, TEIA) appeared to be more willing to experiment with digital (home) office arrangements than their 'longstanding' counterparts, although TEIA's early shift away from its 2001 decentralized 'digital office' arrangements (Laguerre 2005) provides an example of such an experiment being largely abandoned in order to opt for more traditional face-to-face arrangements.

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Third, 'issue networks' (Marres 2006) were also noticeably formed through ongoing processes of adaptation and (often by necessity) via flexible arrangements in the younger civic groups (e.g. the 'spider web' of issues, DHK; or both GDS and TEIA Founders' personal 'issue network' priorities). Such flexi-issue networking amongst the three younger groups—likely demonstrates a less rigid adherence to missions; a relative lack of longstanding projects; and fewer of the member-driven demands that the 'older' groups faced, particularly in relation to adopting or experimenting with ICTs for projects or networks. None-the-less, as Bach and Stark (2005) claim, many civic associations—regardless of their longevity—have been successful because they are often able to balance their missions and questions of efficiency, with the need for adaptability, including adaptation and experimentation with ICTs. As a staffer at the Conservancy Association suggested, "We did not choose the technology. It's the issues that choose the technology" (Interview with CA staffer 07/14/2011).

Fourth, age-related associational distinctions were not, however, noticeably discernible with the uses of public sphere mediation and mobilization tools such as electronic newsletters (e-news), informational emails and group websites. For example, DHK, CA and TEIA all employed direct 'e-mail blasts' distributing their news via email (and sometimes online as well); serving as both 'informational' and 'network maintenance' email functions (Horton 2004). While other associations did not report such uses, all extensively employed email in their internal and externally-related work; and each maintained public cyber(sphere) websites to project their associational presence.

Fifth, all six of the case study groups demonstrated varied forms of multimodal mediation in the 'new public sphere' (Castells 2008) or 'green public sphere' (Yang & Calhoun 2007). Such public sphere practices included the uses of tools and platforms such as: social media, e-discussion groups, microblogging; as well as multiplexed uses of ICTs tools or platforms to (re)transmit or announce live public events or actions. A number of examples public sphere practices have already been identified in Table 8.3 and across the six cases and in relation to the info-sociational model.

Sixth, few of the associations—either those classed as younger or longstanding civic environmental groups—actually employed 'cyberactivist' tools (Pickerill 2003); however, DHK's uses of digital one-person-one-letter (OPOL) campaigns, and OURs uses of social media satire and social media mobilization tactics were notable exceptions. Most groups, however, identified the importance of such practices and suggested that emergent local civic-cyber alliances were important in this regard. And as was noted in the cases studies, civic associations frequently provided either direct or indirect support to emergent civic-cyber formations and alliances that featured digital mobilization.

Seventh, in terms of spatial transformations, the younger groups appeared be more involved in extending their 'spatial reach' beyond using ICTs strictly with an exclusively local or regional focus. Examples included DHK's international design competition; GDS's linking to its global network (on/offline); and TEIA's 'translating' and reporting on global environmental concerns via online new media practices. CA was also involved in an international multiplexed campaign that emphasized local action and global awareness of reforestation efforts; however, the bulk

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of its ICT-linked spatial practices tended to focus on local/regional scale issues. Indeed, older civic associational uses of ICTs in spatial practices appeared to be focused on geographic scales at the city-region level with CA's, NSS's and OURs' digital/GIS map tools focused on the site-city-region nexus (DHK, notably had dropped their experimental map and joined a local digital map alliance).

Eighth, neither longstanding civic associations nor their younger counterparts appeared to be averse to supporting emergent activist oriented civic-cyber coalitions and alliances *which were focused on spatial issues* in all three cities. This included examples such as NSS's support for the Green Corridor and Bukit Brown civic-cyber coalitions in Singapore; DHK's public space alliances in Hong Kong; OURs' attempt to build a online 'Burning Map' network alliance (and its more recent solidarity with the Shilin housing demolition issue); and TEIA's alliances with and IT support for small civic associations). Such alliances and experiences arguably indicate a degree of affinity and solidarity-oriented 'communities of practices' (Sassen 2004); as well as a growing corpus of 'civic intelligence' (Schuler 2001)—partially derived from shared experiences with the uses of ICT tools in ground-level civic environmentalism. In the interviews with staffers and directors amongst these civic associations most interviewees were keenly aware of local digital activists' civic environmental achievements and when and where they were occurring.

Ninth, while there were some notable differences in the manner in which the three 'younger' or more recently formed civic associations employed and implemented ICT tools and platforms in comparison to the three 'established 'or older groups, there were also a good deal of similarities. As was noted, the case of TEIA prompted this associational age related comparison in the first place continues to remain interested in grounded and face-to-face activities (along with its existing ICT practices). The 'younger' cases of DHK and GDS have consistently retained face-to-face activities as key aspects of their organizational practices, particularly with GDS (e.g forums and meet-ups). However, if we compare the 'older' groups—CA, NSS and OURs—it was evident in the cases (from both the interviews and survey) that all three of these groups have been employing a wide diversity of ICTs. More tellingly their 'use-duration' which basically identifies when they began employing an ICT tool or platform indicates that the established groups have been employing ICTs for relatively lengthy periods of time. For example the CA (Hong Kong) reported that 4 of 6 tool/platforms have been in use for at least 7-8 years; and NSS (Singapore) identified that all (5 of 5) tools/platforms that it employs have be used for least 5-6 years in use; while OURs (Taipei) reports that 7 of the 9 tools/platforms that it uses have been around for at least 5-6 years.

Finally, several tentative considerations about possible age-related differences from amongst the six cases are suggested. Despite their relatively long and diverse uses it appears that established civic associations may be undertaking more pragmatic internal deliberation or strategizing when choosing to adopt or adapt ICTs in their associations. This may be in part due to their diverse membership bases and organizational complexities providing multiple venues for innovation, experimentation and feedback about ICTs. At the same time their ICT practices may be more path-dependent or less malleable in that they are shaped by their existing issue and actor-network routines or rigidities. As with the examples of newer groups' uses of 'spatial practices', or older group's tighter adherence to missions and 'issue networks,' this may suggest

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that the younger civic associations possess greater flexibility because they retain less structural or institutional constraints and organizational routines or commitments. This was echoed in a NSS member's observation about novel civic-cyber formations in Singapore operating, 'at the speed of light,' in contrast with the more democratically deliberative processes shaping NSS's own ICT praxis. Nor should such deliberative processes be viewed as a debilitating since it is clear that older civic environmental groups have also been involved in a diversity of ICT practices, including cyberactivism (e.g. OURs). The practical implications of this finding suggests that unlike ICT uses in the example of 'associational leapfrogging' (rapid digitally enhanced start-ups amongst younger civic associations [DHK, GDS, TEIA) that the well established associations (CA, NSS, OURs) need to be actually understood as having long been experimenting with ICT uses in a pragmatic manner; and that they have often been devising ways of blending these digital practices with longstanding face-to-face 'issue networks' and 'actor-networks.'

The comparison between associational age and ICT-practices an interesting illustration of how an info-sociational approach can potentially assess civic associational ICT practices. The next seven sections will make additional comparisons across the case studies by once again drawing upon an info-sociational approach.

8.3.2 Organizational practices: centralization vs. decentralization

The issue discussed below relates to ICT-linked internal organizational practices as established in the info-sociational model. The variations across the cases prompts questions about the extent to which ICTs may be altering the organizational 'balance' between centralization and decentralization within civic associations. Arguably this issue relates to Bach and Stark's (2005) observations about co-evolutionary associational formations and knowledge formations—and it highlights the importance of internally-related ICT practices as being more than simply mundane technocratic, efficiency-oriented or bureaucratic questions. In part, the centralization-decentralization distinctions also relates to questions about how ICTs are reshaping knowledge, power and spatial questions in civic associations, as the discussion below will further explores.

For example, the story of Nature Society (Singapore)'s 'website migration' (2010-2011) stands out—not only because it was occurring at the time of this research—but because it provided a window on the dynamics of ICT-linked 'internal organizational' change issues. This narrative involved the shift to a single integrated NSS, Society-wide website—from a decentralized set of seven individual sub-group websites (each having their own Internet service provider, webmaster, discussion groups, logos and so forth). The NSS website migration example, demonstrated the interplay between socio-technical issues, and—as was explained by an NSS member-director—related to the need for control of information flows through a single portal within a coherent civic associational website identity (and fundraising facility). Although amalgamating and centralizing in some respects, the latest NSS third generation website was apparently designed to respect the decentralized nature of NSS's organizational structure, with sub-groups/committees retaining subsidiary controls in the post-migration website (see

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Chapter Six for more substantive details). This example, illustrated how ICT-linked internal practices involve a complex set of socio-technical power dynamics linking technologies with organizational ideals, procedures, questions of cost and efficiency and the role of staffers and volunteers. The example also demonstrated how an internal organizational practice clearly also influenced external organizational practices—shaping the manner in which digital information flows and will be framed, formatted and mediated to the 'external' world on the web or via social media for instance. Five further points related to how the centralization versus decentralization issue relates to the six civic associational cases are further elaborated in the discussions below.

First, the issue of capillary power dynamics related to ICTs—and manifest in questions about 'obligatory passage points'—has a number of parallels with the case of CA, which had identified the importance of internal (for image, theme or brand purposes) limitations on the number of staffers involved in uploading or posting information on their website. Another example involved the detailed centralized protocol (essentially a form of centralized quality control) involved in shaping the assemblage of TEIA's daily e-newsletter—with the role of obligatory passage points (the 'new media' editorial gatekeepers) representing key socio-technical junction points shaping how knowledge and information was selected, packaged and channeled, both internally and externally, from and between networked civic environmental associations and networked publics.

Second, related to internal flows of digital information, the more established civic associations (CA, NSS, OURs) arguably possesses thicker internal networks (e.g. Board and committee structures, staff hierarchies, etcetera) than more recently formed civic associations (DHK, GDS). Notably, TEIA has adopted a more 'traditional' and rigid organizational structure after its brief decentralized digital office experiment. These intra-organizational actor-network configurations appear to be a factor in shaping decision-making processes, including centralization versus decentralization questions. In addition, the role of project-related and initiative websites or blogs needs to be considered, particularly for how these groups related to each other and the main organization. For example, both the Hong Kong cases of DHK and CA featured the uses of distinct or autonomous individual project websites (often with only a supplied URL link) which retains their own design and functions entirely separate from the 'mother' organizational websites. In CA's case the CACHE group which on a *de jure* level is legally folded into CA, but *de facto* effectively operates as a friendly, but distinct organization with a differing mandate and operations in a distinct physical location. This physical and organizational distinction becomes digitally evident when examining the breadth and depth of distinctiveness of each group's websites—perhaps affirming Horton's (2004) suggestion that websites can, at least to some degree, serve as windows on organizational worlds.

Third, it is also worth considering the extent to which ICTs may (or may not) in the long-run be supporting—what Bach and Stark (2005: 45) refer to as—'distributed structures.' This brings into question the traditional organizational notions of centrality and decentrality in relation to ICT practices in civic associations. For example, discussion forum comments or social media commentary both appear as deliberative, decentralized activities in the civic-cyber public

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sphere. However, control of these venues is shaped by their organizational mother or home domains (e.g. civic organizations in the case of a civic association-hosted 'discussion forums'; versus commercial providers in the case of social media discussion). The interviews and surveys (in the six cases) suggested that overall 'external organizational practices' were deemed to be of greater importance than 'internal organizational practices', indicating that civic associational ideals and tactics remain critically focused on connecting and getting their 'messages out' to the public, not simply on internal efficiencies—regardless of the politics of centralization versus decentralization of ICT practices.

Fourth, another issue related to centralization versus decentralization involves the need to overcome resource constraints—such as funding, staffing or physical limits. Nominally decentralized or horizontal alliances, networks and affinity groups were serving this purpose. Some resource constraints were notably overcome in several cases directly through ICT-linked resource sharing and alliance building—such as GDS's early adoption of networking with civic environmental groups; NSS's alliances on the Green Corridor and Bukit Brown issue; TEIA's IT support to small civic groups; OURs digital networking which augmented its longstanding social networks; nearly all groups' support either tacitly or explicitly for nascent local civic-cyber alliances. Resources constraints were also overcome through the uses of freely available (or open source) software tools or shareware (as identified in the TEIA and CA cases, for example); as well as online discussion forums (noted in the GDS case); and list serves (noted in the DHK case). Less notable, however, were critical deliberations about the longer-term impacts and trade-offs associated with differing types of free tools or platforms—like free, yet gated, social media sites versus internally run web discussion forums; or free shareware and open source packages versus commercial software dedicated for non-profits.

Fifth, regarding centralization versus decentralization, resource constraints had also been overcome indirectly with local volunteers or members helping physically launch or support ICT projects in civic associations (such as NSS's and the CA's early use of volunteers/OPPs); and through crowd-sourced information volunteerism (such as TEIA's e-reporters). Across the cases it was clear that civic groups often relied upon a decentralized and a significant 'labour of love' for their overall efforts, including ICT practices, and which typically involved a mix of committed (and sometimes low paid) staffers; dedicated volunteer directors and members (who contributed personal time and sometimes funds to the organizations); and supportive publics (who either provided donations or purchased memberships). Such volunteerism, operating as distributed or decentralized actor-networks at times contrasts with the push for the professionalization (and centralization) of services, projects and staffing arrangements, including ICT support and development, which sometimes represents a tension that plays out in non-profit civic associations.

To review, questions of how ICTs influenced centralization versus decentralization are more complex than simply a binary dialectic. In some respects this tension or dynamic is in accord with Bach and Stark's (2005) suggestion that civic associations are increasingly 'distributed' and involving a hybridization of both centralized and decentralized functions. While this does suggest a critical need to better understand civic associations' internal and external

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organizational logics, it may also be appropriate to reframe questions about centralization versus decentralization in a digital age. Such a reframing might explore the manner in which civic associations are digitally meeting their missions and ideals in connecting with interested publics. As the conclusions in Chapter Nine will discuss further, concepts such as emergent 'knowledge communities' (Bach & Stark 2005) and 'communities of practice' (Sassen 2005) suggests a need to look beyond just the centre and periphery; and instead towards emergent actor-network formations.

8.3.3 Organizational practices: ICT-linked 'associational leapfrogging'

The issue developed in this section is primarily related to ICT-linked internal organizational (and to some degree participatory) practices as suggested in the info-sociational model. Just as 'technological leapfrogging' is about overcoming barriers by bypassing traditional modes of telecommunications for seemingly more 'advanced' ones (e.g. see Castells et al., 2007: 216)—what is termed here as ICT-linked 'associational leapfrogging' is demonstrable when small associations (or counterpublics) rapidly increasing their organizational visibility and presence through the use of ICTs for internal and external purposes (Pickerill 2003). The question remains has techno-leapfrogging occurred amongst the three 'younger' civic environmentalist groups operating in the three tiger cities? This question will be further examined in the four points that follow.

First, the case of TEIA appears to provide a clear demonstration of associational leapfrogging of the type that Pickerill (2003) describes when a small group of environmentalists employ ICTs with significant effects. As the case study in Chapter Seven detailed, this Taipei-based green new media association (founded in 2001), was able to employ ICTs to fill an environmental news and information exchange gap. It started with a decentralized 'digital office' experiment; and initially distributed its e-news through an actor-network (of contributing civic groups, volunteer reporters and staff-writer-translators). In many respects one could argue that the establishment and relatively rapid growth of TEIA (in terms of staffing and projects) represented a form of associational leapfrogging linked to ICTs.

Second, as was noted in the cases of relatively young associations like DHK (founded 2003) and GDS (founded 2007)—both were driven by the impetus of key 'situated individuals' or 'obligatory passage points' (Keck 2004; Bach & Stark 2005) whose personal networks and networking talents encouraged interest in their associations; and who also employed ICTs to critically augment and enhance their grounded practices (e.g. DHK's 'spider web' of face social networks that were digitally reinforced through emails, list serves and social media). In both DHK and GDS many of these actor and issue networks were face-to-face—emphasizing forums and physical events—however, emails, e-news and web/blog postings and digital archiving were also critical during their inception or start-up periods; and have continued to be crucial in maintaining networks and generating publicity. In GDS's case this has included regional and global Green Drinks networking in person and diligent online chronically of regular events, complemented by strategic and multi-mediated messaging (e.g. single invitations distributed via multiple digital platforms).

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Third, how might we compare ICT-linked associational leapfrogging examples (e.g. TEIA) or possible leapfrogging effects (e.g. DHK, GDS) to the situation in the three 'established' groups (i.e. CA, NSS, OURs) whose genesis occurred essentially before the rise in popularity of ICTs? Certainly, the three newer groups retain considerably 'lighter' organizational structures (TEIA originally so), thus permitting the initial digital office experiment in TEIA's case (although later abandoned); a home-based arrangement in GDS's case; and one-person office portability/mobility in the case of DHK. By contrast, the older groups' anchored semi-permanent office arrangements; complex board/committee structures and breadth of projects and campaigns would appear to make their digital organizational arrangements more fixed and complex than in comparison with the smaller, younger civic associations.

Fourth, the discussion above perhaps has the tones of a business-oriented analysis, so it is worth repeating that all of the cases are non-profit in structure; and rather than primarily driven by profit or efficiency logics their 'bottom line' involves a focus on local environmental and social issues and campaign objectives. Such civic associational objectives also suggests that associational 'leapfrogging' may also be occurring amongst other nascent activist formations, grassroots movements and urban counterpublics in the tiger cities. For example, another possible example of associational leapfrogging, identified in the case studies, was that of the Greencorridor.org in Singapore which essentially did not exist before the KTM railway corridor became an issue in 2010—then at the 'speed of light,' rapidly coalesced as an emergent civic-cyber formation to the point that in 2011 it was reported to be considering formalized incorporation as a non-profit society (Interview with the GDS Founder 7/11/2011).

In sum, there appears to have been (at least during their start-up phases) a degree of 'associational leapfrogging,' or ICT-linked jumpstarted growth, amongst the examples of 'young' civic associations in this investigation. This appears likely in the case of TEIA and possibly in the cases of OURs and GDS, which have both been less dependent upon ICTs for projecting their organizational presence than TEIA. The discussion above has suggested that civic environmental association's can, under the right conditions, potentially advance their organizations—including their causes and objectives—partially through socio-technical means.

8.3.4 Participatory practices: 'face-to-face vs. face-to-Facebook' and the public sphere

The issue elaborated in this section relates to participatory practices, particularly ICT-linked public sphere reconfigurations as identified in the info-sociational model. Karen Evan's work (2004) on the relations between ICTs and their impacts on communities importantly identifies how face-to-face networks can be either overlooked or downplayed with a focus on digital networking. Her work prompts the question: are civic environmental groups overemphasizing the significance of social media (i.e. face-to-Facebook and Facebook-to-Facebook relations) versus face-to-face relations? This question will be explored in the three points that follow.

First, a number of the case studies suggested that civic associations do not necessarily view the question identified above as a trade-off in terms of ICT uses for networking versus 'traditional' face-to-face networking. For example, the 'spider web of relations,' was identified in the DHK

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case—however, it was emphasized that this was importantly rooted in face-to-face contact (initiated at meetings, events, and so forth). ICT uses or practices were typically seen as complementing or reinforcing physical or face-to-face ties (not unlike Horton's [2004] 'reinforcement' emails). Interviews with an OURs' staffer and director also made it clear that they felt that ICTs did not serve to facilitate alliances, but rather these were driven by relationships amongst people who personally knew each other and then worked on developing these connections later through ICTs. When asked about the extent to which ICTs might be intruding into personal life space it was felt by an OURs director that these were simply complementary tools for communication—although one OURs staffer did identify how the association's social media usage was increasingly requiring 'off work' time for responding to associational-related social media demands in discourse.

Second, the case of TEIA was also identified as increasing emphasizing its face-to-face activities and projects (rather than expanding its already high level of digitalization). Of late TEIA had also developed an organizational 'rule of thumb' for confirming actionable matters, which had to be either face-to-face or by telephone, rather than via overloaded email accounts. Another example comes from the CA, whose staff also identified that tight face-to-face arrangements in their office and amongst directors (via physical meetings) remained critically important. And although this contrasted to some extent with NSS—which emphasized uses of email amongst its executive committee for key meeting decision-making in an attempt to minimize face-to-face meetings—a member-director of that Singapore group still highlighted the importance of face-to-face relations and relationships.

Third, the GDS Founder also notably identified the cultural importance of face-to-face relations—suggesting that even in seemingly in 'tech advanced/obsessed' tiger cities those longstanding forms of trust and relationship building (and maintenance) remained crucial. Besides possible socio-cultural factors, distinct 'organization cultures,' illustrated how ICTs were being employed in varying blends of multiplexed face-intensive and ICT intensive practices, apparently regardless of the age of the association.

To recapitulate, it would appear that the civic associations investigated in this study would at least partially concur with Evan's point about the importance of face-to-face networks in defining and maintaining their 'civic environmental community.' Even for once digitally savvy civic associations there seems to have been a noticeable technological 'blowback effect' which underlined the importance of a 'back to the face-to-face' approach. These groups may, however, not agree with her assertion that ICTs are undermining face-to-face networks—particularly since all are employing a multiplicity of digital tools in their practices. Thus, despite the groups in this investigation arguably increasingly blending face-to-face and grounded activities in ICT-linked practices—exemplifying hybrid civic-cyber 'communities of practice' (Sassen 2004)—these associations in one way or another underlined the importance cultivating longstanding face-to-face relationships in their civic environmental work. It would therefore appear that face-to-face vs. face-to-Facebook remains a false dichotomy at least in relation to the cases examined via an info-sociational approach. More on the issue of blending face-to-face with ICT practices will be discussed in the next section.

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8.3.5 Participatory practices: 'clicktivism' vs. physical activism

The issue focused on in this section relates to participatory ICT-linked cyberactivism as identified in the info-sociational model. The trade-offs between physical and online activities which associations sometimes confront have been identified in a number of the case studies. Such trade-off relates to debates about whether civic activism should principally be organized around grounded physical actions—such as in grounded organizing; public meetings/hearings; or street protests—or whether it should significantly employ digital tools and e-campaigning tactics. This dichotomy has been characterized as the trade-off between individuated clicktivism—digital 'click' activism, or online convenience activism—versus what Dean (2011: 125) refers to as the, "planning, discipline, sacrifice, and delay," involved with 'ground-level' activism and local resistance. She, for instance, essentially considers social media as hype. This trade-off will be discussed in the three points that follow.

First, not unlike the 'face-Facebook' dichotomy discussed above, the clicktivism vs. physical activism trade-off also remains a problematic binary since civic associations in this study have often employed blended or multiplexed strategies that deploy an array of both ICT and physical approaches that in turn have reinforced or fed-off of each other. For example, OURs employed social media uses for a mass physical mobilization (Danshui street protest noted in Chapter Seven) which illustrated the connections and interplay between digital cyberactivism and grounded activism. And NSS's involvement in the Green Corridor civic-cyber campaign involved organizing (on NSS's part) a mixture of educational walks, meetings, workshops, preparation of hard copy publications—as well as employing its own website (for digital publishing); engagement on its social media platform; and supporting emergent cyber-civic alliances such as 'savethegreencorridor.org.' The events of that NSS campaign therefore involved a subtle blending of tactics and tools—rather than categorically selecting or deselecting a physical or virtual pathway at the expense of another, as if a zero sum game. None-the-less, concerns about commercial appropriation, generation of hype and online tracking or monitoring which Dean (2011) identifies as digitalized threats to traditional activism suggests that uses of ICT tools or platforms need to be understood as not simply benign technological pathways. Civic associations and their allies need to remain abreast of such threats.

Second, the multiplexed virtual-grounded activities examined across the cases (see examples in Tables 8.4, 8.5, 8.6) also suggest the knowledge building of ICTs for both the civic associations and for public project users. For example, the CA's educational initiatives involved a combination of fieldwork such as environmental education and ecological restoration alongside ICT-linked activities such as online reporting and data sharing. Such projects not only shaped the mentee-trainees, but also the Association's experiential knowledge in using ICTs. Mixed virtual-physical formats also demonstrated self-to-mass mediation possibilities—like TEIA's voluntary digital reporters/editors efforts. Such hybrid efforts also suggest the potential for increasing civic-cyber environmental public awareness.

Third, public sphere activities, besides focused on the ground can also incorporate unique digitally mediated 'ways of seeing or knowing.' As diverse examples in the cases illustrated (see

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Tables 8.4, 8.5, 8.6) this can include multi-mediation (audio, video, text); online forums; news or blogs, and digitized interactive mapping tools (with digital discourse and public feedback about eco threat alerts)—exemplified in CA's and OURs' online GIS map mash-up experiments. Besides the diversity of experiments noted across the cases in this investigation, ICT-linked public sphere practices were commonly employed in all six of the civic associations and they can be said to be playing a greater role than in comparison to (rarely employed) forms of cyberactivism across the case studies. Digital public sphere mediation arguably can enhance or augment physical activities linked to environmental education, ecological restoration and in helping to address civic environmental issues.

To sum, in response to the investigative question: 'have ICTs encouraged individual clicktivism over collective physical action?' Based on the experiences identified in the cases in this investigation, the response would be in the negative. In part this is a result of the fact that few of the associations directly employed 'clicktivist' tactics—although DHK employs OPOL campaigns; and OURs cited online petitions and its social media agit prop approach. However, for all of these groups because 'clicktivism' remains an option it suggest one of many possible tools and tactics (ICT-linked or otherwise) that civic environmental associations might potentially deploy in their campaigns and work. Finally, the increasingly intertwined, multiplexed nature of grounded and online activities suggests that a dichotomy between clicktivist and physical actions may be increasingly problematic.

8.3.6 Participatory practices: slow vs. rapid response deliberations

The issue outlined in the following section invites comparisons between ICT-linked public sphere reconfigurations and cyberactivism as suggested in relation to participatory practices in the info-sociational model. One of the case study interviewees spent some time discussing at length the notion that knowledge and actions 'at the speed of light' were at least peripherally (if not more directly) altering the ways in which civic associations operated (Interview with NSS member-director 11/15/2010—See Chapter Six for details). Through these ICT-linked 'rapid response' actions, civic-cyber associations can be rapidly formed online; can respond quickly to changing events and circumstance on the ground; can form multiplexed on and offline networks; may create the potential for mobilization; and employs relatively few resources. 'Speed of light' praxis—rapidly putting environmental knowledge into practice at least partially via ICTs—on the part of civic-cyber campaigns and coalitions appears to be noticeably shifting the culture of civic environmentalism in all three cities (e.g. Ip 2011; Chapter Four, this study). Are these rapid response deliberations and formations a taste of civic environmentalism and participatory practices to come? The three point discussion below takes-up this question further.

First, the role of green bloggers and cyber-campaigners was cited in the interviews in Singapore (also see: Tan 2006; Tan 2007). And new counterpublics and on/offline socio-culture media movements have been evident in Taipei (also see: Kuang 2009; Zheng 2011); and in Hong Kong (also see: Ip 2009; Lam & Ip 2011). The role of the six civic associations in this study in 'rapid response' coalitions was noteworthy as either quiet supporters, peripheral allies, observers, or

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direct support groups (e.g. Bukit Brown and Green Corridor campaigns [Singapore]; Tai Long Sai Wan social media campaign [Hong Kong]).

Second, these rapid or 'viral' civic-cyber formations or coalitions are arguably distinct from traditional 'slower deliberations' in civic associations. In this respect the role of deliberative discussion, debate and forums—organizational democracy and (green) public sphere—remain important for providing inputs and reflections on praxis and tactics in the ICT-enabled rapid response (or 'speed of light') strategies and environmental cyberactivism (also see Pickerill 2003).

Third, in all six of the cases there was a clear emphasis on the importance of ICT practices in deepening the deliberative or participatory public sphere (e.g via on and offline forums, e-news/information sharing, new media, etcetera). Direct uses of cyberactivist tactics amongst the six groups were noticeably limited (the key exceptions being OURs sometimes employing social media in both public sphere discourse *and* in mobilizations and 'agit prop' online satire tactics; as well as DHK's uses of digital one-person-one-letter [OPOL] lobbying campaigns). However, other (apparently) one time only experiments were noted such as smart mob nature protection mobilization (CA); or an environmental reporter's 'bearing witness' form of activism (TEIA). Observers of the 'rapid response' formations however, have raised questions about how to tap or transform nascent or viral cyber formations energies into longer-term staying power, including the possible linked role of existing civic associations (Lam & Ip 2011; Zheng 2011: 104). This highlights the potential importance of civic environmental associations as 'bases of stability or support' that might enable horizontal linking with cyberactivists and nascent digital movements (e.g. linked digital support to campaigns) including providing solidarity or affinity responses, along with resource sharing.

In sum, a greater propensity was noted across the tiger city cases for employing ICTs in slow deliberations (i.e. public sphere discourse) rather than in 'rapid responses' or cyberactivist 'speed of light' tactics. None-the-less, civic-cyber activism has influenced the six civic associations and their coalition formations and peripheral alliances; as well as (in some cases) affinity support to frontline environmental and digital activists. This also reaffirms the importance of pre-existing face-to-face and social relationships or networks as stabilizing complements to rapid response digital deliberations.

8.3.7 Spatial practices: enhanced global-local networking

The issue examined in this section relates to the form and nature of ICT-linked spatial practices as identified in the info-sociational model. At issue is whether ICTs are actually enhancing spatial practices, including environmental networking about such issues and mapping local hotspot issues. The three points in the discussion below examine this issue further.

First, as the case studies indicated, groups such as CA, DHK, NSS and OURs have all notably been involved with employing online mapping tools on their public websites. While DHK's brief experiment is no longer employed, it continues to support a local commercial news group's GIS

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map mash up effort to flag environmental and development issues in Hong Kong. The same effort is also supported by CA, however, it additionally maintains several separate and distinct online maps focused on land use issues at the regional scale in Hong Kong (e.g. Hong Kong Rural Devastation Map). These maps feature public reporting or crowd sourcing opportunities for flagging and tagging land use, habitat or heritage threats, for instance. In Singapore, NSS supports an online informational map which links spatial and tabular information on bird speciation and habitat. And in Taipei, OURs 'Burning Map' has supported an experimental platform which during its beta phase served to identify urban issues with linked to a civic networks (both on and offline), and crowd sourced reporting for key ('burning') land use issues.

Second, the spatial tools identified above are potentially transformative because they permit interested publics to conceive and frame city/peri-urban spaces in new dimensions—toggling beyond site or neighbourhood-specific to interconnected regional perspectives. In particular these ICT-linked spatial tools enable a city-region framing potentially combined with user-volunteered data. Except for the current NSS map , the CA, OURs and DHK's' supported maps permit 'crowd sourced' participation, potentially enabling a greater understanding of environmental concerns and public participatory 'issue networking'—creating a digital spatial artifact and archive which serves as a type of 'civic intelligence' (Schuler 2001), or a form of collective knowledge-building.

Third, nominal worldwide accessibility to civic associational websites also demonstrates a potential for scalar transformation, widened knowledge exchanges and deeper civic alliance-building—either locally, regionally or globally. One such example of networking was DHK's 'International Harbourfront Design Competition' which involved a global online contest inviting international entrants to provide their design vision for the Central Waterfront portion of Hong Kong's Victoria Harbour—and inviting local publics to review and rate these entrants. Additional examples of spatial transformations will be discussed in the next section.

In sum, a response to the hypothetical question, "are ICTs enhancing global-local spatial transformations?" would suggest that these tools (such as GIS; and social media platforms for alliance formations) are providing new integrated or holistic geographic insights on city-spaces and crossing traditional spatial barriers to communications. In addition, such ICT-linked practices, as the digital GIS map mash-ups identified above, are encouraging the public to pro-actively identify some of the linkages between environmental problems and wider patterns operating at both a site and a city-region scale.

8.3.8 Spatial practices: polycentric alliance formations

The issue examined in this section relates to alliance formations as part of ICT-linked spatial practices in the info-sociational model. Examples from the six case studies suggested that civic associations in the tiger cities have apparently prioritized associational alliance formations—particularly local civic alliances—over g/local spatial transformations in their practices. How has this observation been manifest in the case studies examined in this study? The three points in the discussion below explore this question further.

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First, evidence from across the cases in this study suggests that primarily *local or regional civic coalitional alliances* were being supported through ICT uses rather than global alliances (see Table 8.6). For example, both fully virtual and mixed virtual-physical network alliances across the cases have extended, augmented or deepened local campaign involvement and helped to (re)frame problems as well as to provide key linkages with other civic issues. Although most of the groups in the case studies identified ICT's role in augmenting their alliances; digital practices have also sometimes been cited as helping directly build allies and alliances—such as in the case of TEIA which has continued to provide IT technical support and hosted websites for a cluster of small civic associations in Taiwan; and which provides a new media venue for civic environmental groups to get their key messages digitally distributed. The recently formed association of GDS has 'plugged into' various local alliances through their Founder's networking initiatives—including uses of social media and as an e-environmental group moderator—to expand their civic-cyber networking. Moreover initially ad hoc alliances—such as the Green Corridor and Bukit Brown civic-cyber coalitions/campaigns in Singapore—connected with experienced formal civic associations such as NSS or the Singapore Heritage Society and these alliances were at least partially abetted through ICT praxis.

Second, a familiar pattern of digitally enhanced network formations or augmentation was notable in Taipei where OURs worked with civic activists and 'netizens' in a flash response to a housing demolition in the name of urban redevelopment (See Chapter Seven). The OURs Chair suggested that its alliances first originated in face-to-face relations which were then later supported or augmented through ICT practices. Similar to OURs experiences, CA has long participated in a wide array of alliances (as the case study in Chapter Five details), although again, these have been largely initiated as face-to-face rather than triggered by ICT uses. The newer Hong Kong group DHK too, has either joined-up with existing civic-cyber alliances or sometimes as a 'keystone' group (e.g. Tung Chung alliances; public space issues), and sometimes peripherally and has employed ICTs as key aspects of its campaigns (along with alliance maintenance functions)—yet is still underlined the importance of face-to-face alliance building.

Third, multiplexed on/offline forums and projects have also arguably deepened city-region discourses about civic environmental and spatial issues—and all of the cases demonstrated some examples of how ICTs can serve to either complement or even kick-start locally-networked alliances (see Table 8.3). In addition, new types of informal (virtual/grounded) and counter-power alliances, as well as alternative media (sub)cultures were reported amongst the tiger cities (e.g. online video activists; digital cultural activists; green bloggers, etcetera) as the cases in Chapters Five to Seven identified; alongside the discussion on changing civic space in Chapter Four.

In sum, in response to the rhetorical question 'have ICTs enabled polycentric alliance formations?' the answer would be in the affirmative. Most cases in this investigation provided

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Table 8.7: **Synthesis of overall and specific findings across the case studies and in relation to the info-sociational model**

	Synthesis of overall findings	Synthesis of specific findings
ORGANIZATIONAL TRANSFORMATIONS	[1] Interviews and surveys indicated that external-oriented organizational practices (EOP) using ICT tools/platforms were considered more important by civic associations than in comparison to internal-oriented organizational (IOP) practices; [2] Civic organizations drew upon the relative affordability, accessibility and familiarity of ICT tools/platforms in the three tiger cities in their practices (e.g. issue networking, media multiplication); and in some cases resource constraints appear to be overcome through their uses (e.g. internal actor-networking; external crowd-sourcing).	[1] Age distinctions were not evident or were mixed across the six cases related to ICT tool uses and / or longevity; public (cyber)sphere practices, cyberactivism, or alliance formations. However younger associations did differ from longstanding associations in relation to obligatory passage points (OPPs); digital office arrangements; 'issue network' flexibility; and uses of ICTs tools in g/local spatial practices; [2] ICTs added new complexities to questions of centralization vs. decentralization inside organizations as illustrated in the digitally shifting 'obligatory passage points' inside associations as well as increasingly 'distributed' civic environmental actor-networks and 'issue networks'; [3] ICT tools and platforms appeared to support 'associational leapfrogging' (ICT jumpstarted growth) amongst the three cases of 'younger' or more recently formed associations.
PARTICIPATORY TRANSFORMATIONS	[3] Interviews, website analysis and surveys indicated that public sphere oriented practices and processes (PSR) played a more significant role in comparison to cyberactivist practices (CA) across the cases; [4] ICT-linked experimentation was common across the cases and reported regardless of an association's age or lifespan. This demonstrated the potential for increasing citizen environmental public awareness via ICT-linked green public sphere activities; and also through environmental cyberactivism;	[4] Civic environmentalists, as evident in various cases, were experimenting and producing cyber-civic participatory spaces—such as mixed media sites; social media and discussion forums; map commentary spaces; and green alternative media platforms or e-news venues; [5] The importance of ICT practices in the 'new' / 'green' public sphere was highlighted by examples across all of the cases; and the trade-offs between face-to-face vs. virtual networks (as well as grounded activism vs. 'clicktivism') did not appear to apply to the cases as groups' identified blended or complementary uses of ICTs with grounded practices (and a continued emphasis on the importance of face-to-face personal networks); [6] Although cyberactivism was not common across the cases, some groups employed social media mobilization and satire / agit prop as well as digital lobbying / letter campaigns; and in general, civic associations either provided alliance affiliations, technical support, endorsements (or carefully observed) emergent 'rapid response' forms of environmental cyberactivism in the three tiger cities;
SPATIAL TRANSFORMATIONS	[5] Interviews and website analysis indicated that associations were prioritizing ICT uses in associational alliance formations (AAF) (and primarily local) over their g/local scalar transformational activities (GLST); [6] Evidence from across the six cases illustrated that local / regional civic alliances and coalitions (typically originating in face-to-face contacts) were being supported or induced through ICT-linked practices.	[7] ICT-linked spatial tools—such as GIS maps employed or linked to four of the six cases—incorporated unique 'ways of seeing or knowing' and employed multimodal approaches (e.g. audio, video, text) as well as links to commentary and threat / risk mapping or eco-alerts in several of the cases; [8] The role of ICT tools and platforms in alliance building was evident in relation to city-wide maintenance of existing civic environmental networks, but also in connection with new types of local-local and regional civic-cyber formations; [9] Multiplexed network alliances across the cases have broadened involvement in local campaigns and arguably helped reframe campaigns by providing links to other city-region issues or involving greater citizen involvement in environmental campaigns.

Sources: Chapters Five, Six, Seven and Eight in this investigation.

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examples of ICTs enhancing existing alliances (through reinforcement); and several cases identified new forms of civic-cyber alliances (e.g. Bukit Brown and Green Corridor examples in Singapore; Tai Long Sai Wan example in Hong Kong). These novel types of digital formations signal the changing face of civic associations, movements and networked activism in the three tiger cities.

8.3.9 A synopsis of associational-specific findings

The discussion above has employed elements of the info-sociational model to develop a set of comparative inquiries that served for comparisons across the six case studies in this investigation. This section further builds on these findings and the empirical analyses in the case studies to structure a set of overall and specific findings. These findings therefore tie the ICT practices of civic associations to an info-sociational approach for understanding associational-specific practices. A set of the key summary findings are listed in Table 8.7 and are grouped into a six point cluster of 'overall' findings; and a nine point cluster of 'specific' findings. The implications of these research findings will be further explored in the final section of this Chapter and as well in Chapter Nine. Before those discussions, however, the next section builds upon the Third Proposition and sets out to discuss how 'critical hope' can further assist in scrutinizing the investigation's findings.

8.4 Findings about 'critical hope' in relation to *Proposition Three*

This section briefly touches on the connections between the Third Proposition—that info-sociations (ICT practices in civic associations) are potentially seeding civic cyber(spaces) of hope—and the findings identified thus far in the study. Although the core focus of this investigation was on the 'how' and the 'why' of ICT-linked practices, the civic associational cases revealed a number of common problems and issues that might better inform critical reflections on civic-cyber praxis. The info-sociational model identifies the importance of maintaining a critical stance on the socio-technical transformations underway in civic associations as they employ ICTs; and as a means to generate alternative socio-technical futures. In part such a critique has been suggested as a means for further tackling questions of *knowledge, power and space* which are embedded in the model's ICT-linked analyses of organizational, participatory and spatial practices respectively. Concerns about digital futures also echoes the importance of self-reflexive critiques of ICT uses by civic environmentalists—as noted by Pickerill (2003: 36-57) and Horton (2004), for instance—including questions about digital impacts on time and energy commitments; creeping commercialism; and perceived threats to civic discourse and place consciousness (also see: Shutkin 2000: 241).

Related to the Third Proposition, ICT linked problems and possibilities require further elaboration. To do this, the first section below broadly identifies some of the key paradoxes and possibilities that the case studies identified. The second section then provides a more coherent

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set of critical reflections on civic-cyber praxis, as a prelude to the discussion on 'cyberspaces of hope' in Chapter Nine.

8.4.1 Paradoxes and possibilities in civic associational ICT practices

As the case studies in earlier Chapters detailed, civic environmental associations in the three cities have at times helped to instigate inspiring e-campaigns—such as the CA's online Hong Kong Rural Devastation Map or its digital efforts mobilizing publics to protect trees (a heritage 'wall tree flashmob' effort in Hong Kong [July 2005]); and OURs online organizing to protect a heritage street in Taipei (a social media-organized street protest in Danshui, Taipei [May 2010); or DHK's international online design contest focused on the Central Waterfront of Hong Kong. ICTs were observed as being blended with social practices and face-to-face networks—serving multiplexed roles that co-involved both grounded and virtual activities. These multiplexed efforts have also apparently been enabling civic-cyber coalitions of citizens to form on and offline in pressuring government agencies to act on urban nature conservation, as was evidenced in the multi-associational efforts behind Singapore's Green Corridor Campaign (involving NSS and to some extent GDS in 2010-2011).

So while we may find inspiration when civic-cyber groups coalesce and achieve results using new forms of grounded and online alliances—we may also be disappointed that similarly active civic-cyber alliances have been apparently unable to halt the destruction (or desecration) of urban spaces, such as Singapore's Bukit Brown Cemetery; or Taipei's Wang family residence, and so forth. The point is that ICT practices are clearly not a panacea in the ongoing contestations in and about civic spaces that scholars like Manuel Castells (2008), amongst many others have observed as an ongoing tension between power and counterpower. Nor can ICT praxis, as Jodi Dean (2008) has sharply pointed out, serve as surrogates for face-to-face campaigning, lobbying, fundraising, contesting and negotiating. In fact Dean goes further in suggesting that ICTs and digital practices should not be the venue for generating hope amongst civic associations and urban activists. An info-sociational approach identifies with these concerns, however, it also posits that there is a need to find or envision hopeful forms or acts of digital praxis where knowledge can be linked to transformative, participatory actions in civic space. Such civic cyberspaces of hope remain an important ideal if ICTs practices are being opted for or employed.

The case studies have also noted that some civic associations—such as TEIA and CA for example—have explicitly called for greater information transparency from their local governments. However, some civic associations themselves may also lack accessible online deliberation channels, or have inadequate online digital materials or archives about their projects and plans. We might also agree that Designing Hong Kong's City Speak forums, or Green Drinks Singapore's monthly events and OUR's rapidly organized 'street lectures' have demonstrated that ICT practices—which complemented face-to-face events—have indeed helped seed interest, learning, sharing, dialogue and even debates about urban spatial and

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environmental issues. In turn such ICT praxis has arguably contributed to the evolving public (cyber)sphere in their respective cities.

None-the-less we may find it problematic that online campaigns, e-initiatives and digital discourses suffer from extreme ebbs and flows of interest (perhaps indicated in tags, hits, links, tweets, likes or reposts) and a general inability to sustain long-term attention spans or energies amongst netizens. Or we may note that social and environmental justice issues appear to be given short shrift by civic-cyber environmentalists in lieu of the need to continuously develop the latest ICT tool, app or website design. Indeed, some civic associational websites have had 'broken or missing links'; or their e-discussion groups are sometimes infested with commercial or pornographic spam; or their experimental platforms at times have very low viewership, or appear to be in an ill maintained state of semi-abandonment. Such examples may suggest other pressing priorities on the ground and in the office or they may be due to a lack of project funds or stable staffing; however, they do raise serious questions about the degree of long-term sustainability of some ICT practices in supporting civic environmentalism in the face of overloaded agendas, limited resources and last minute campaign needs.

And yet we may also be inspired by the story of the Taiwan Environmental Information Association—a group of environmentalists who choose to 'become the media' with their uses of digital tools, online organizing and remediation of green news. TEIA's Founder felt that need for information openness and exchange was so pressing in Taiwan that in 2001 he initiated a digital association whose main focus was on gathering and transmitting environmental information from and about other civic associations in Taiwan; and from news sources around the globe. As the TEIA case study described, this new media formation emerged in short order to become an 'obligatory passage point' (Callon 1986; Bach & Stark 2005) as a key Taipei alternative media hub and information exchange for digital environmental news. This case in many ways suggests that ICTs can support civic associations in potentially bypassing mainstream media or civic associational norms. Such potentially transformative effects from ICT uses need not be contained or confined with the remit of the association, but may spillover to wider actor-networks—in this example, the civic environmental movement in Taipei and Taiwan.

And further, like some critics of ICTs practices in general, and by civic environmental associations in particular have pointed out (e.g. Shutkin 2000)—we may wonder if these digital tools and platforms are undermining traditional grassroots organizational models or methods and simply serving as technological pacifiers rather than as socio-technical tools for building 'civic intelligence' as Schuler (2001) prefers. Or perhaps worse we may remain concerned that ICT uses might serve to facilitate digital platforms for markets to peddle their products in perpetuity (as the concept of 'planned obsolescence' or 'churn' suggests); or more problematically, to define and demarcate new market domains for oligopolistic and monopolistic practices (see: Evans 2004: 24-26; Foster & McChesney 2011), as the shift to 'gated' for profit social media platforms and away from locally controlled or mediated BBS's and civic discussion groups might suggest. Indeed the case of NSS illustrated an interest in maintaining a local discussion forum—despite their website centralization and consolidation—in order to maintain local environmental civic cybersphere discussions.

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And so when Dean (2010) suggests that the hard, grounded or street level work of civic activism can be undermined by social media hype (with a 'need to monetize' digital models); or when Tatarchevskiy (2010) argues that civic associations utilizing social media for its convenience sake may unwittingly be undermining the ingredients that have long shaped civic life and public discourse—we might need to further consider the implications of ICT uses and path dependencies on the public interest and for public (digital) goods. In addition, the findings derived from the cases examined in this investigation (and itemized in the previous sections of this Chapter) have highlighted the importance of the resource implications of ICT practices in term of staff or volunteer time (as the OURs case clearly identified, for example); long term capital expenditures and unit operating or maintenance costs; as well as the less tangible costs and tradeoffs in terms of to virtual versus face-to-face relations and activism.

Finally, in some respects the types of contradictions identified above have always been inscribed in civic environmental associations' socio-technical choices given their position frequently outside the established institutional order or the local 'establishment.' An info-sociational approach therefore has provided a distinct cross-cutting organizational, participatory and spatial mode of analytics that situated associations' digital praxis in the context of changing civic spaces. As socio-technical tools, ICTs embed the human realities and contradictions of the associational and civic space settings in which they have been shaped and constructed. It can be argued that ICT praxis—and an info-sociational approach—provides another window for understanding the growing 'paradoxes' embedded within environmentalism that Mulvihill (2010) identified earlier. The dialectic discussion outlined above on problems and potentialities in civic associational ICT-linked practices serves as a prelude to a number of broader critical reflections on civic-cyber praxis which stems from the empirical work in this study.

8.4.2 Critical reflections on civic-cyber praxis

The info-sociation model has suggested that 'critical' perspectives about ICT practices are a necessary accompaniment to discussions about their potentialities. Some of these concerns and critiques have already identified above—such as in Evans (2004) critiques about community social networks being undermined by virtual networks—however, an integrated assessment further bridging ICT-linked critiques to case findings is in order. Such a brief assessment will be undertaken in the five points that follow:

First, widespread uptake and interest in civic associational uses of ICTs amongst the civic associations identified in the cases (including social networking tools/platforms) underlines the concerns identified by Evans (2004)—that digital practices may be eroding or discounting face-to-face practices. As noted in the case studies, many of the groups identified that 'face-to-face' practices were crucial in their work and it was suggested that ICTs were augmenting and complementing (rather than displacing) physical and grounded work. However, stemming from the growing uses of social media, several additional concerns are noteworthy. For example, the abandonment or attrition of BBSs (e.g. CA) and the consolidation of digital discussion groups

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(e.g. NSS) identifies platforms which were formerly civic associational-controlled public sphere tools, rather than commercially-controlled. This underlines possible threats posed by monopolies or oligopolies in terms of information and knowledge control and in relation to a growing dependency on commercial social media. Of course the same argument could be made across a spectrum of ICT tools and content ranging from networks, operating systems, email, search engines and so forth. Critiques for example have identified the problems with employing ICTs when sectoral domination in software, hardware or platform oligopolies/monopolies can lead to a loss of consumers rights amongst other issues (e.g. Evans 2004: 24-26; Foster & McChesney 2011). This critique also suggests the need for further research into how civic associations are supporting pro-civic or pro-public, .org, foundational, and other types of non-profit initiatives such as the Creative Commons, Open Source movement; as well as non-profit oriented 'wikinomics' initiatives (King 2006; Tapscott & Williams 2007). In addition, the growing uses of social networking sites was also identified (by an OURs staffer) as potentially eroding traditional work time (and personal time) given the pressures to respond to public digital discussions and commentaries.

Second, the issue of internal control of ICTs in civic associations arises in relation to questions about the role of well meaning tech-savvy volunteers—akin to King's idea of 'supernodes' (2006: 51) or obligatory passage points—in the development of associational websites, blogs and so forth (e.g. identified in NSS and CA cases). Here problematic issues related to questions of information control. Notably, Dean (2010) suggests that social media rather assisting in activism may be serving to appropriate it. Is deliberation happening about these issues in the case study sites? The answers appears to be that social media is being adopted amongst civic environmental groups on a widespread basis (in the case sites) due to its popularity and cost-effectiveness. Moreover, the need for civic associations to 'keep up' with the latest ICT tools suggests that socio-technological assessments may be being overlooked.

Third, concerns by scholars about how ICTs may be undermining wider processes of civic engagement, dissent and slow deliberation amongst activists (Crang 2007: 75; Dean 2010: 124-125) was also evident in a number of examples during the research. For example, NSS though judiciously deliberative, appears to have accepted that member initiative will drive whether ICT tools will be adopted or not (e.g. social media uses; early website initiatives). On the other hand its recent (2010-2011) website migration did illustrate reflexive discussion about the fate and trajectory of ICT praxis in the organization. Other groups' approaches appeared to vary depending upon director, staffer or volunteer energies, although in small organizations, the 'obligatory passage point,' typically remained a sole individual charged with many responsibilities, including ICT management. A more difficult counterfactual issue is whether ICT-dependent groups are forgoing the hard work of physical activism in campaigns (as Dean 2010 claims). For example, in the Bukit Brown campaign (in Singapore), despite the apparent passion generated amongst civic-cyber activists the imminent road construction leads to the question of whether stepped-up physical tactics should have be considered an option (and whether ICT activism simply created a 'pacifier effect,' possibly dissuading or distracting from other considerations) despite the significant challenges in Singapore for implementing grounded activist tactics.

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Fourth, related to the point above have been concerns that 'clicktivism' and an online presence may be undermining grounded, critical, civic activist commitments (Dean 2010; Tatarchevskiy 2010). As was noted earlier, it appears that this contention does not hold for the cases, however, it needs to be emphasized that civic associations are traditionally more stable and pragmatic (or even conservative) in comparison with emergent digital and non-digital movements and counterpublics. Notably, in all three cities, civic associations identified the importance of alliances (and the actions of civic-cyber activists); and even the practices of more business oriented civic groups appeared to be interested in at least somewhat 'rocking the boat,' (e.g. GDS) in part due to the influence of a new generation of civic-cyber activists.

Fifth, another issue remained about whether ICTs were altering internal power balances and placing undue pressures on staffers (or volunteers) with the advent of the 'cyber work week' (versus the *civic* work week); and the advent of the decentralized digital office (Laguerre 2005). In addition, email overloading was noted by two groups (TEIA; GDS); and a staffer identified the pressures related to keeping tabs on social media campaigns and commentaries (OURs). It was also noteworthy that TEIA's digital office experiment fell apart because of the inability to retain face-to-face contact, essential for civic environmental groups. In addition, ICT needs may potentially be serving to 'professionalize' previously activist-oriented associations which have historically hired according to a mix of aptitudes and competencies including commitments and familiarity with civic and activist issues—as was identified in the OURs case in Chapter Seven.

Finally, perhaps it is best to return to empirical detail when reviewing how associations were critically reflecting upon their ICT praxis. Such reflexivity, though not always apparent in the interviews, suggests the importance of returning to the ideals and ideas of civic environmentalism to better understand the group's purposes in choosing to employ ICTs. Here the observations of an NSS member-director provided an insightful perspective on the limitations of ICTs and some deeper questions about consumption:

> *"It is not yet clear to me that any of this technology new technology, although it has the capacity to give wonderful images of nature so that everybody wants to conserve nature. And although it has the capacity to bring people together to speak to governments more efficiently, it's not organized well enough so that it actually brings about the end result that creates an economy that uses less resources in order to give people a decent standard of living. The excitement with which everybody's going into the websites and the i-phone apps and the this and that and the other, that's the same competitive excitement that is used by other people about 'and I've got a bigger house and a bigger car and a bigger this' "*
> (Interview with NSS member-director 7/8/2011).

To summarize, a number of the critiques of ICT-linked praxis in the research literature were tied here to the case study findings. Although face-to-face networks (according to the associations in the case studies) did not appear to be being undermined, concerns about both personal and

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work time consumption in the uses of ICT tools, such as social media and email; as well as the threat of insidious commercialism were noted. This includes issues such as volunteer contributions and the potential professionalization of staffing (to meet growing ICT needs) which may alter the very nature of civic organizations. In addition, the growing importance of ICTs in organizations raises ongoing issues of internal power dynamics and information control questions.

Critical issues also identify the importance of examining how civic associations might become more deliberative and strategic, basing their ICT plans on internal (and external) debate and shared knowledge (like 'civic intelligence'), rather than simply on societal or market norms and trends; or on the initiative of well-intentioned staffers, members or volunteers. Finally, sorting through the 'hype' in 'affective social media' (Dean 2010) also suggests the importance of civic associations seeking to identify the importance of 'effective use' (Gurstein 2003) in their digital practices. For civic environmental groups this suggests the need to continuously (re)assess the integrated uses of ICT tools and platforms based on their abilities to effectively aid and abet in addressing primarily local civic environmental problems. The six civic associational sites of ICT praxis in this study provided important empirical evidence of some of the socio-technical challenges, threats and opportunities facing contemporary civic environmentalists. The final section the follows will return to the civic associational cases in order to review the overall findings for the investigation.

8.5 Chapter conclusion

An info-sociational approach provides one possible means for understanding the socio-technical paradoxes inherent in the ICT practices of civic groups. This approach has treated civic associations as actor-networks—particularly examining their ICT linked associational-centric o*rganizational, participatory and spatial* practices. The info-sociational model posited that by engaging in an analysis of socio-technical *praxis*—that is, how ideals and ideas were manifested in associations' ICT practices—that we might unpack some of the socio-technical paradoxes at the intersection of civic associations and information communication technologies.

The point of investigating the six particular cases of civic environmental groups in this study was to undertake an examination how and why civic associations and ICTs were co-evolving; and possibly reconfiguring civic space (in this case in Hong Kong, Singapore and Taipei). The examination also sought to sort through some of the 'hype' related to ICT practices; as well as to critically ascertain some of the 'hope' or potentialities related to multimodal ICT uses and their multiplexed and multiscalar dimensions. This concluding section provides a layered synopsis of the investigation's key findings and their implications.

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8.5.1 Summary of the investigation's findings

A brief summary of the findings from this investigation and the supporting info-sociational approach would broadly suggest that the cases of civic environmental associations studied in Hong Kong, Singapore and Taipei have emphasized several key points with regards to information communication technology practices. Amongst the six cases of civic environmental associations employing ICTs in three tiger cities, these points would suggest that civic associations have, in general, been:

- prioritizing external ICT-linked practices over internal ICT-linked practices;
- employing public sphere ICT-linked practices over cyberactivist approaches;
- emphasizing ICT-connected associational alliance formations, more than emphasizing ICT-linked spatial transformations or scale-shifting.

The synopsis stated above, however, because of its brevity and generality misses a number of key comparative distinctions stemming from the empirical work found in Chapters Five through Seven. Therefore, a second synoptic approach would include an additional 'layer' of findings from this investigation and would suggest—in relation to the six case studies—that:

- age-related variations amongst civic associations' ICT practices, on balance, identified a mixture of both differences and similarities;
- neither ICT-linked centralization nor decentralization characterized organizational practices, but rather, hybrid arrangements involving each;
- ICT-linked 'associational leapfrogging' has indeed occurred amongst younger or newer civic associations;
- 'Face-to-face vs. face-to-Facebook' appears to be a false dichotomy since ICT tools typically augmented face-to-face associational work rather than substituted;
- ICTs have not by and large encouraged individual 'clicktivism' over collective physical actions or collaborative activism;
- civic associations have demonstrated a greater propensity for the uses of ICTs in slow deliberations compared with rapid response forms of activism;
- ICT-linked spatial transformations were evident across the cases, however occurred more often at the city-region and local scale, than at a global geographic scale;
- ICTs enhanced existing civic alliances and potentially supported new civic-cyber formations.

Yet again, however, such a synopsis would miss fine grained aspects about the six case studies including comparisons between the distinct case pairs; and linkages to the civic space contexts which have shaped (and have been shaped by) the civic environmental groups in Hong Kong, Singapore and Taipei. Therefore a third attempt to further complement and enrich the synopsis above would focus on the five additional points identified below:

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First, the key common attributes of the six case studies examined in this study (OURs, TEIA, NSS, GDS, CA, DHK) was that they each featured *non-profit associations;* and that each had a contingent focus on *civic environmentalist* practices, in addition to the fact that each had varying degrees of ICT-linked practices. Overall, however, the variations in the associations' six core activities highlighted the differing purposes for which ICT practices were designed to serve. This ranged from a group with grassroots activist roots in urban spatial justice issues (OURs), to a new media nexus and civic environmental informational and news portal (TEIA); or from a longstanding decentralized group of conservation researchers, educators and nature protectors (NSS), to a recently formed green networking group, that was part of a wider global movement (GDS); as well as from a pragmatic group of conservation critics articulating concerns and counterplans about the fate of nature and land uses (CA), to an emergent networking effort focused on catalyzing public dialogue and debate about land use planning, city politics and urban design (DHK). In this respect each of these six groups on their own (and when treated as age distinct 'case-pairs') provided a useful window into the worlds of tiger city civic environmental associations.

Second, the central concern of the info-sociational approach involved analyzing variations in ICT-linked practices amongst civic associations at the *organizational, participatory and spatial* levels. Within organizational practices, for example, each group's 'actor-network' (Bach & Stark 2005) and 'issue network' (Marres 2006, 2010) was examined. Where ICT-linked practices were concerned, these nets—as the cases illustrated—were actively being shaped and reconfigured amongst actor-networks in relation to key local environmental issues of the day; as well as by associations' historical role within existing peer alliances and 'issue networks' situated in and shaping of their respective civic spaces.

Third, often driving ICT-linked practices and experimentation (internally and externally) was each civic association's organizational structure (shaped by varied histories, missions and experiences). Here distinctions between 'younger' and 'older' civic actor-networks were sometimes evident amongst the six cases. For example, two of the younger largely single-person driven associations (e.g. GDS, DHK) retained flexibility in their start-ups by experimentation with or rapidly implementing (or modifying and dropping) ICT tools and practices. Whereas longstanding groups (CA, NSS, OURs) were often more pragmatic in their ICT-linked practices—although perhaps surprisingly demonstrated diverse and often long use durations of ICT tools or platforms. The co-evolving nature of ICTs and civic associations remained evident amongst both longstanding and newer groups. The cases—as viewed in relation to the socio-technical info-sociational approach—therefore demonstrated how differing civic groups were attempting to strike a balance between both virtual and grounded organizing, activities and projects; as well as face-to-face versus digital office environs.

Fourth, besides ICTs possible roles in changing organizations (and organizational change) the info-sociational model helped to identify the importance of ICTs in changing participatory practices. Crucially, this included the emergence of a digital 'green public sphere' (Yang & Calhoun 2007)—identifiable in all six of the cases—and manifest in various ICT-linked practices such as: e-discussion groups, social media networking discourse, online video (re)mediation, online document sharing, accessible digital archives or crowd sourced online GIS-map

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commentary. These approaches appeared to complement or augmented civic environmentalists' traditional public sphere practices in mainstream mass media and face-to-face public forums.

Fifth, employing ICTs to assist with publicity and mediation—for both civic education and activism included the digital politicization of civic environmental and land use issues. This demonstrated of the potential of ICTs for transformative practices. Although ICTs were less noticeably employed by the six civic associations for 'classic' forms of environmental cyberactivism (e.g. Pickerill 2003); a number of examples of civic-cyber movement and situational counterpublic cyberactivism in the tiger cities (see Chapter Four) provided evidence of models that the six groups were aware of or assisted in some manner. This support involved joining or helping seed civic-cyber alliances, or simply providing tacit support on the part of members or staffers. Examples of these rapidly-formed counterpublic digital responses ('speed of light' formations) included: the 'Green Corridor' and 'Bukit Brown' campaigns in Singapore (involving both NSS and GDS in wider civic-cyber coalitions); the 'Tai Long Sai Wan' campaign in Hong Kong (identified by CA and DHK); and the example of the Shilin housing (Wang's family) demolition in Taipei (involving OURs). OURs and TEIA also attempted to extend their support to existing civic networks—with the former initiating the Burning Map Network and the later continuing its ongoing IT support to small civic associations (not to mention its green media nexus role in support of Taiwan environmental groups). Despite the promise of ICTs for augmenting alliance-building, the cases of older groups in particular, suggested that civic environmental associations had long been involved in coalition and solidarity building efforts—well before the rise of mainstream digital practices in the tiger cities.

Sixth, the info-sociational model also provided an analytical perspective for understanding how ICTs might be altering civic associations' spatial practices. This identified global-local spatial transformations where ICTs were altering forms of spatial cognition—from the site-specific, to regional and wider scale consciousness. Such transformations were demonstrated in direct uses and experimental (or linked support) for GIS online mapping tools (often map mash ups) by several associations (e.g. CA, DHK, NSS, OURs). Spatial shifts also involved associational alliance formations whereby ICTs typically had served to reinforce primarily existing local-local and regional alliances as well as to instigate novel civic-cyber 'communities of practice' (Horton 2004; Sassen 2004).

Together the various layers of summarized findings listed above have provided a synoptic sketch of the investigation's outcomes; however, this does not identify the implications stemming from the study's results. By highlighting a number of these key implications the section below will serve as a bridge between this Chapter's focus on findings and the final Chapter's focus on future directions. The next section develops this transitional discussion.

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8.5.2 Implications of the investigation's findings

What are some of the implications of the findings identified in the previous sections? Five points listed below identify a few of the many possibilities or potentialities stemming from this investigation's comparison of ICT practices amongst tiger city civic environmental groups.

First, the use of ICT tools and platforms amongst nascent formations and newer civic groups demonstrated a strong potential for associational growth or advancement (termed 'associational leapfrogging' here). The evidence from the case studies suggested that newer civic associations have been able to employ ICTs to advance and build an 'issue network,' a public image, publicity and campaigns in a rapid manner upon start-up. This does not, however, suggest that longstanding groups have lagged or fallen behind the newer associations in terms of their diversity or complexity of ICT practices. This suggests from an overall perspective that the feasibility of enhanced ICT/IT peer-support from amongst existing civic associations including supporting new groups in their start-up phases might potentially strengthen the local civil environmental sector. Examples in the cases included the assistance of civic mentors and associations in helping GDS to initially build its Singapore civic networks; and TEIA in Taiwan providing ongoing ICT support to smaller civic associations with their websites and other IT-related issues.

Second, multiplexed approaches notable across the case studies illustrated the importance of employing ICTs to complement associations' existing ground-level strengths—such as face-to-face networks; community organizing; or grounded initiatives. Perhaps because these mixed and blended practices often augmented existing strengths, civic associations did not appear to be overly concerned with the possible diminution of longstanding face-to-face social networks, but rather viewed ICTs as complementary, augmenting or enhancing tools. Similarly, although 'clicktavist' tactics were rarely employed by the groups in this investigation, they did not appear to diminish or displace physical or other forms of tactics and again, arguably complemented grounded activism. An implication of these findings suggests that despite tiger city civic environmental groups apparent enthusiastic digital adoption (and adaptation) the long term effects of these transformations on civic organizational culture and civic social network formation may be being overlooked and poorly understood.

Third, since civic associations have exhibited a greater propensity to employ ICTs in 'slow deliberations'—such as supporting public sphere discussions—rather than 'rapid response' cyberactivism, this has implications about the roles of civic associations in altering their home city civic space. This not only suggests the ongoing potential of employing ICTs by civic associations for 'expanding' the public sphere via digital tools or platforms; it also identifies a need to better identify under what conditions cyberactivism might become more compatible or complementary with existing civic associational practices, particularly since nascent civic-cyber movements are often short lived and require more stable organizational bases of support.

Fourth, ICT-linked tools were most commonly being employed in relation to spatial practices to enhance regional-level geographic awareness of land use and environmental issues that were

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the focus of civic associations' work and activism. Spatial tools such as geographic information system (GIS) online mapping were employed, supported or experimented with in four of the six cases (DHK, CA, NSS, OURs). The implications of these practices—which have permitted a shifting scales of concern from a 'site-specific' to a 'city-region' geographical scale—suggest a need for further exploration of civic ICT practices for enabling spatial pattern recognition or spatial pattern matching of common urban environmental issues; as well for identifying existing (or future) civic digital spatial tools and platforms that might benefit from further crowd sourcing and public discourse interfaces.

Fifth, ICTs have provided another important means for building civic alliances, coalitions of concern and common cause or 'communities of practice,' as well as 'civic intelligence.' The cases demonstrated that ICTs could maintain or enhance existing alliances and even support new alliances—although again, this did not appear to diminish the importance that initial or ongoing face-to-face relations had within and between civic associations. The implications of this finding suggest a need for further exploring how civic associational alliance formations can help civic environmentalist's to more effectively meet their goals, share resources and build stronger coalitions of common civic concern.

To recapitulate this Chapter has identified research findings from across six case studies of civic environmental associations employing ICTs in their practices. The findings derived from comparing cases across the three tiger cities as well as grouped by age-distinct, city specific case pairings—provided insights into a wide array of civic associational ICT-linked practices. The discussion addressed the three propositions first identified in Chapter One and focusing on: city-specific storylines of civic space; the importance of understanding associational-specific practices; and reexamining practices in light of 'critical hope' critiques and potentialities. The idea of further exploring both the pragmatic and idealist possibilities and potentialities raised by the extensive findings outlined above will be the focus of the final Chapter that follows.

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<u>Chapter Nine.</u> Info-sociations, cyberspaces of hope *and moving on*

9.1 Introduction: sorting out the 'hope' from the 'hype' in ICT praxis

> *"Renewed citizen participation: here the net and telematic instruments could really help, not substitute for, but help considerably the development of grass roots democracy and interactive democracy in real time."*
> —Manuel Castells, "Urban Sustainability in the Information Age", (2003: 121).

The ongoing and diverse work of the civic environmental associations portrayed in this investigation have served as reminders that civilized, livable cities are built by an active citizenry concerned about the fate of their local environs. This contrasts with more narrow conceptions of 'global cities' as being *singularly or solely* driven by a short-term competitive, commercial logic. Besides being key sites of global interchange (Castells'[1996] 'space of flows') and gravitas—cities are also an ever changing mosaic of longstanding peopled communities, iconic and sacred places; and a co-mingling of natural and human built forms ('spaces of place' [Castells 1996]). This study attempted to examine how information communication technologies (ICTs) were shaping and being shaped by civic environmental associations in three Asian tiger cities.

As the case studies and the civic space storylines in Hong Kong, Singapore and Taipei identified—civic environmentalists have not only been employing ICTs for reasons of cost effectiveness and internal efficiency, but also for experimenting with and exploring new practices. The multimodal ICT-linked tools and platforms studied here have affected civic associations by: reshaping organization behaviors; creating knowledge-enhancing and activist opportunities for 'green' public discourse; multiplexing digital and non-digital information and activities; and helping build action alliances at multiscalar levels. This investigation also identified examples where staffers in some civic environmental groups have increasingly become 'information workers' in addition to their day-to-day work as educators, organizers and activists. As ICTs reconfigure workplace practices inside civic associations the changing work of staffers might be compared to Da Rimini's (2010) *'flexitariat*'—the info-society flexi-time proletariat or workforce—raising questions about how or if ICTs are affecting not only staffer-activist behaviors, but also the longstanding ideals of civic associations. As this Chapter will discuss further, civic associational ICT-linked practices not only have demonstrated practical and imaginative potentialities—they sometimes have also resulted in paradoxical and problematic socio-technical effects.

The info-sociational model was proposed as a theoretical pathway—a mode of analysis and a conceptual signifier—for addressing this study's research questions which sought to: c*ompare how and why civic environmental associations were employing ICTs in their practices; and to understand in what ways ICT-linked practices were transforming civic space in the tiger cities; as well as identifying problems and potentialities in ICT-linked praxis.* While Chapter Eight has provided a detailed response to these research questions with a detailed set of empirical findings—the implications of these findings need to be further explored, particularly to assist in

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building a theory of info-sociations. For instance, do the types of ICT-practices discussed here represent potentially 'liberating tools'(Schuler 2008) for realizing new 'imaginaries' (Sassen 2005) amongst civic associations? And what are some key paradoxes as well as practical and idealistic possibilities raised by an info-sociational approach? This concluding Chapter wrestles with these kinds of questions further in a two-part discussion below. The first portion of the discussion reviews the premises underpinning the info-sociational model and identifies how this approach—based on its application in the tiger city settings in this investigation—has helped to identify a number of paradoxical problems but also several potentialities stemming from ICT uses in civic associations. The final portion of the Chapter identifies a set of applied research possibilities stemming from an info-sociational approach. This section seeks to identify both pragmatic and idealistic possibilities in building an info-sociational theory and the related research agenda termed: 'cyberspaces of hope.'

9.2 Paradoxical problems, potentialities and the info-sociational model

Rapidly morphing info-sociations—that is, non-profit civic associations employing ICTs—remain complex socio-technical phenomenon to assess, not only because digital practices and ICT applications vary greatly amongst these groups, but also because civic associational actor-networks are diverse and rapidly changing, as this investigation has identified. The six case studies—situated in Hong Kong, Singapore and Taipei—demonstrated how the uptake and use of an array of ICT tools and platforms has presented new opportunities and challenges for civic environmental associations. An info-sociational approach was identified as a possible means for gauging these transformations via analysis of the co-evolving nature of civic associations' ICT-linked practices. This section sets out to further examine how an info-sociational approach can assist in identifying the paradoxical problems along with the potentialities of civic associational ICT-linked praxis.

9.2.1 The info-sociational model in retrospect

The concept of *info-sociations*—or ICT-associations—was introduced in Chapter One of this study as both a conceptual and an analytical approach for understanding how civic associational activism has been co-evolving alongside the array of ICTs which they sometimes employ. In particular, the info-sociational model—elaborated in Chapter Three—was suggested for unpacking ICT-linked *organizational, public participatory and spatial* practices. These cross-cutting transformations in practices were considered part and parcel of the concept of info-sociations, including their linkages to issues of *knowledge, power and space.* The info-sociational model therefore provides one possible mode for comparing ICT-linked *praxis* (where ideals and ideas were being put into action) amongst civic environmental associations within and between the three Asian tiger cities.

Although a cluster of case comparisons at selected *sites of praxis* cannot make a theory or vindicate a model anew, the info-sociational approach was designed to complement current transdisciplinary research on the role of ICTs in urban civil society (e.g. Sassen 2004, 2005; Bach & Stark 2005; Marres 2006; Castells 2011); as well to fill research gaps and to complement

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comparative research that focuses on digital practices and civic environmental activism in urban Asia (e.g. Lai 2004b; Lam & Ip 2011), as Chapter Three has identified. And as the findings in Chapter Eight have demonstrated in some detail, the info-sociational model employed in this study provides an integrated mode of analysis for comparing civic environmental associations' ICTs uses in their daily work. The info-sociational model integrates a core focus on *micro-practices* at the civic associational level and attempts to situate these in relation to *local civic space* and *critical analytical contexts*. Such an approach, as it was argued earlier in the investigation, can potentially help to identify ICT-connected civic associational practices as issues of knowledge, power and space (Soja 1996). For instance, *knowledge* in the info-sociational model can be understood as being connected to multimodal ICT-linked organizational transformations, including forms of emergent 'knowledge communities' (Bach & Stark 2005); and politicized g/local 'issue networks' (Marres 2006; 2010). Whereas *power* relates to ICT-linked, and frequently multiplexed, political and participatory transformations—in this study identifiable in the changing 'global public sphere' (Castells 2008) and emergent 'green public sphere' (Yang & Calhoun 2007); as well as manifest as 'cyberactivism'(Pickerill 2003). At the same time, multiscalar *spatial* issues, identifiable in the info-sociational model's ICT-linked spatial transformations (Sassen 2004, 2005) may also manifest as 'communities of practice' (Sassen 2005); or in polycentric forms of 'civic intelligence' (Schuler 2001). Knowledge, power and space issues are also intimately connected to changing city-specific civic space—as was elaborated in Chapter Four of this study which identified associational, environmental and informatics issues particular to the study's settings in Hong Kong, Singapore and Taipei.

As the findings in Chapter Eight suggested, practices across the civic associational case studies demonstrated the importance of: ICT praxis irrespective of associational age; associational leapfrogging amongst newer groups employing ICTs; slow deliberations and public sphere-oriented approaches when using ICTs (compared with 'speed of light' forms of cyberactivism); multiplexed approaches that integrate face-to-face and digital uses; spatial shifting that employs ICTs to help link site-specific issues to broader urban-region perspectives; digital enhancement of existing civic alliances; and existing civic associational support to nascent civic-cyber alliances.

An info-sociational approach has also acted as a 'barometer' of changing civic space and civic associations because it assisted in tracing socio-technical manifestations of the 'local as multiscalar' (Sassen 2004). In other words, each of the six case studies of ICT praxis portrayed in this investigation should not be understood as isomorphic 'analytical islands' on their own, but rather as cases connected to *and shaped by* other 'issue' and 'actor-networks' including civic associational peers, social movements and counterpublics; as well as the civic space contexts of each tiger city. At the core in understanding the qualitative shift from associations *to info-sociations,* has remained a crucial need to examine transformations in civic associational activities linked to ICT practices. Hence the info-sociational model's properties—which mapped internal or external ICT-linked organizational practices; ICT-linked public sphere reconfigurations and cyberactivism; along with ICT-linked spatial transformations and associational alliance formations—can also be understood as means for mapping associations'

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future oriented civic-cyber strategies. Such strategizing will be discussed in relation to research agendas as identified in the final portion of this Chapter.

The info-sociational model has also aided in revealing *ICT praxis insights*—where socio-technical practices were being put into action—as part of both pragmatic and activist strategies amongst civic environmental associations. For example, the cases of civic groups in Hong Kong, Singapore and Taipei—found in Chapters Five through Seven of this study—revealed a great deal of diversity in ICT-linked practices: from the practical discourse around a website migration inside a decentralized civic association, to examples of multiplexed virtual-grounded networking and activism; from start-up digital or e-organizational formats, to innovative methods of media multiplication; or from experiments with digital public engagement for civic activism, to the uses of interactive GIS-map based tools for public awareness raising and reporting. Such a diversity of practices suggests the need for further comparisons of the shortcomings and strengths of ICT-linked tools and strategies. Arguably an 'index of info-sociation'—ascribing an array of metrics to organizational, participatory and spatial ICT-linked practices—could potentially complement the type of qualitative assessment of civic groups' digital practices undertaken in this study. More on various types of applied research initiatives and future possibilities stemming from an info-sociational approach will be discussed in this Chapter. Before that discussion, however, the section that follows seeks to identify a number of ICT-linked paradoxes that can support theorizing about info-sociations.

9.2.2 The paradoxes of ICT practices in civic associations

As the previous Chapter has suggested, critical perspectives on ICT-praxis can provide an insightful reality check when talking about ICT potentialities in civic associations. Earlier in this investigation several paradoxes and problems related to ICT practices amongst civic environmentalists were identified—such as the importance of remaining focused on grounded local issues and civic discourse, rather than being unduly driven by virtual interactions or distractions (e.g. Shutkin [2000: 241-242]). Critical and at times paradoxical issues were also identifiable from the six case studies—and these can better inform the development of a theory of info-sociations including civic-cyber praxis potentialities. The following six issues—drawn from the empirical work (in Chapters Five through Seven); and the analysis of findings (in Chapter Eight)—highlights several paradoxes of ICT practices in civic associations and their implications for building an info-sociational theory:

- Well meaning tech-savvy volunteers have frequently played key gatekeeper roles (as 'supernodes' or OPPs) in shaping ICT practices; however, info-control was also sometimes identified as a problematic issue. This suggests that an info-sociational approach needs to further explore the roles of key individuals or groups in relation to ICT praxis in civic associations.
- Associational staffing may also be changing to suit the need for ICT competencies instead of activist commitments or issues familiarity. This suggests that an info-sociational approach ought to further explore the changing nature of associational

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staffing, directorship and volunteering—in relation to civic activism, issues awareness and ICT competencies.

- Growing uses of social media suggested a possible 'information control' threat from ICT-linked commercial interests, particularly sectoral or platform dominant oligopolies. Nor does this diminish concerns about state info-control or monitoring, including possible complicity of commercial interests. This suggests that an info-sociational approach might further explore how non-profit civic associations are organizing in relation to commercial and / or state threats of info-control in social media and other ICT tools or platforms.
- 'Face-to-face' practices remained crucial amongst civic associations despite the fact that ICTs were augmenting or complementing (rather than displacing physical or grounded activities). This suggests that an info-sociational approach might further examine the critical role of face-to-face networks, including in multiplexing with ICT practices.
- ICT-linked reflexivity about socio-technical choices was relatively limited amongst civic associations and in some groups digital directions were primarily driven by voluntary impetus rather than extensive deliberations. This suggests that an info-sociational approach could further explore the discourse and deliberations occurring during critical junctures where ICT choices are undertaken and the transition to them becoming locked-in and path dependent or familiar tools and platforms.
- Email and social media work overloading was noted as an issue amongst some civic groups; and a digital office experiment failed due to a lack of face-to-face contact—underlining the importance of in-person contact amongst staffers, volunteers and directorships. This suggests that an info-sociational approach needs to further explore ICT-linked workplace issues as well digital workplace experiments in civic associations and their possible failings and successes.

While the case studies have identified a wide array of challenges related to civic environmentalists in the three tiger city settings employing ICTs—they also have identified important potentialities and even 'powerful imaginaries' (Sassen 2005: 75-76) with deepening digital uses. In some respects such transformative visioning and strategizing has long been manifest in the ideals and ideas of civic environmental groups—and arguably this has had little to do with the advent of ICT tools and practices. Indeed, just as newly established civic associations have employed ICTs, so too have longstanding groups—as the six case studies have clearly indicated. Tapping ICT potentialities therefore may have more to do with the civic group's ideas and ideals than with its age or digital competencies. None-the-less the investigation's findings do suggest a number of important possibilities that ICT praxis might play in the future work of civic associations. The remainder of this Chapter builds upon the 'critical hope' dialectic between paradoxical problems and potentialities—as initiated in Chapter Eight—in order to focus on both practical and imaginative futures related to civic-cyber praxis.

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9.3 Info-sociations as 'cyberspaces of hope'

The diversity of activities amongst the cases in this investigation have illustrated—not unlike Pickerill's (2003) or Horton's (2004) work on digital practices in local environmentalism—that ICT-linked practices appear to be complementing and augmenting rather than displacing longstanding approaches to addressing civic environmental problems. Info-sociational public sphere e-tools (e.g. social media, online videos, e-discussion groups, etcetera) also demonstrated an important potential for improving public deliberations, particularly when multiplexed with physical activities. Indeed, these blended or multiplexed digital-physical practices suggest possibilities for hopeful civic associational uses of ICTs. What are some of the additional pragmatic and imaginative ICT-linked practices that might address pressing civic concerns? A response to this question is arguably be linked to the need for further research that enhances or extends the efficacy of the info-sociational model and analytics employed in this investigation. Advancing a research agenda in support of a theory of info-sociations at this point could therefore take two distinct directions—one, an *applied, pragmatic pathway* focusing on research possibilities. The second, an *idealistic pathway,* suggesting the need for further articulating 'cyberspaces of hope' that builds on associational values, visions and strategies to examine potentialities in ICT praxis. The discussion that follows—geared towards practitioners and researchers alike—suggests how further building an info-sociational theory can complementarily support both a pragmatist and an idealist teleology for future ICT-linked praxis in civic associations.

9.3.1 A pragmatic agenda for an info-sociational theory

In this study info-sociations served as both a mode of analysis and a conceptual signifier for understanding the dialectics between ever changing ICT practices within and amongst civic associations. The findings from this investigation have provided plenty of possibilities for strengthening an info-sociational approach. Both the broad and the detailed findings—as outlined throughout Chapter Eight—have suggested at least three overarching considerations which can serve as possible starting points for deepening a theory of info-sociations and for undertaking future research in support of this goal. These include the need to consider the following:

> ***a. The importance of digital 'knowledge-issue communities'.*** The cases in this investigation illustrated that civic associations are serving as complex knowledge generators as well as members of/in extensive 'issue networks' (Marres 2006, 2010). With the use of ICTs, there exists potential for forming alternative types of 'knowledge communities' (Bach & Stark 2005) where civic environmentalists can be involved in digital knowledge building, including with direct linkages to the relevant civic issues of the day. Advancing a theory of info-sociations suggests the need to further examine a number of related questions such as: How are long-term associational uses of ICTs altering organizational knowledge and learning, including 'institutional memory'? Or how do ICTs reconfigure the linkages between knowledge transfer and exchange in civic

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associational work? And how are traditional or local knowledge systems and citizen science being linked to civic associational digital practices? Moreover, are ICTs enabling the emergence of new 'communities of practice' and civic cybercultures and if so, how are these addressing pressing civic issues?

b. The importance of multiplexed practices and local activisms. Cases in this investigation identified the significance of multiplexed practices which are involving blends or mixtures of: on/offline activism; intertwined digital new media and traditional mass media; virtual or mobility tools and face-to-face networks; online mapping tools with grounded observations or activities; and online and in-person public sphere participation. The finding that ICTs may not be diminishing interest in 'traditional' forms of face-to-face networking and grounded activism is also arguably linked to these multimodal on/offline practices. This suggests that in advancing a theory of info-sociations a number of related questions need further exploration, such as: What processes or cycles does multiplexing of digital and non-digital practices involve? What type of continuum exists between specific sets of digital and non-digital practices in civic associations? Under what conditions (and formats) are associations blending face-to-face activist practices alongside ICT-linked practices? And what role has multiplexing of the digital and non-digital played in expanding the digital public sphere? Further, how might blended digital tools (such as GIS map mash-ups) enhance regional environmental consciousness and grounded place-based knowledge?

c. The (potential) power in local civic-cyber alliances. Several of the case studies in this investigation also demonstrated how ICT praxis can potentially facilitate more extensive local-local and local-regional networked alliances in city-regions. The study identified how new kinds of civic-cyber counter-power alliances have been forming—signaling changing tactical alliances and positioning for local civic associations within their respective civic spaces. This suggests the need for an info-sociational theory that can help to address several related questions such as: What are the strength of network links amongst civic-cyber associational alliance members, particularly between nascent movements and longstanding civic associations? How are civic-cyber alliances influencing local urban planning and environmental policies and how effective are such alliances? How are questions of accountability and internal democracy being addressed within emergent civic-cyber alliances or coalitions? What constitutes 'successes' amongst relatively short-term civic cyber formations or movements?

Deepening the efficacy of the theoretical approach used in this investigation might also involve applying the info-sociational model for examining comparative empirical cases in a variety of distinct geographic or civic associational settings. For instance, this could include employing an info-sociational model in comparative or replicable studies of ICT-linked practices *amongst various other types of civic associations* (particularly civic-cyber movements and counterpublics); *in various other civic domains* (human rights; social justice; housing, alternative media, etcetera); and *in various other urban settings* (including the other tiger city Seoul, Korea

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but also other cities in Asia, or elsewhere). These are several possible pathways for deepening this study's exploratory use of an info-sociational approach.

Besides the uses of the existing info-sociational approach for comparative or replicable studies of ICT-practices in civic associations, a number of practical research applications might also assist in deepening an info-sociational theory. The wider implications of the findings for theory-building are the focus of the next portion of the discussion below. Here seven possible follow-up research directions—including their related methodological or data considerations—have been identified below as 'exploratory scenarios' in support of an info-sociational approach:

a. ICT-linked policies and civic associations. This exploratory scenario suggests the need for further research into those ICT-linked policies which are geared to meeting civic associational needs. Ideally research into such policies—both at the individual civic association and networked associational level—would be devised or directed by civic associations. In relation to this investigation this would suggest linking civic associational and allied associational policies to the types of emergent practices that tiger city civic associations have already self-identified. For example, civic associational ICT-linked organizational practices would suggest a need for considering policies that support emergent local civic-cyber network formations; as well as approaches that support shared or collaborative training and transparency models for key staff and volunteers who fulfill gatekeeper/OPP roles. Or civic associational ICT-linked participatory practices would suggest a need for exploring policies about possible 'clearinghouse' or 'info-exchange' functions for civic associational collaboration and resource (or creative commons) sharing related to digital: experiences, tools, platforms, public sphere enhancement, activism and mobilization. And civic associational ICT-linked spatial practices would suggest exploratory research into policies that might better facilitate shared 'civic intelligence' through collaborative digital alliances at the local, regional and global level; as well examining civic associational policies or positions on shared or open access spatial tools such as: digital mapping, participatory mapping and crowd-sourced spatial approaches.

b. ICT-linked policies and governments. This exploratory scenario suggests the possibility of further research into ICT-linked policies related to local civic associations and government interactions. This might include examining those policies directly related to civic associational ICT praxis; and indirectly related to governmental informatics legislation, policies, plans and projects. For instance, a number of governmental issues which were peripherally raised by civic groups in this investigation—such as issues about information control, transparency and accessibility—are heavily dependent upon the distinct polity in their civic space setting, which in turn is shaped by local institutional configurations, legislative and state agency norms and agendas. To further illustrate, a policy analysis that might support civic associations and freedom of civic-cyber association, might further investigate actual and perceived ICT-linked barriers, threats or limitations that these groups face including: socio-economic and digital divides; digital training and competency needs; and legal

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barriers or challenges. Additional, policy analyses might, for example, address current issues related to state policies on ICTs, civil society and non-profit groups, mass media and communications policies, including issues about cyber censorship and cyber monitoring of civic associations or activists; as well as the involvement of civic associations (compared with commercial interests) in helping to formulate or participate in informatics public policy formation.

c. Undertaking longitudinal studies of info-sociations. This exploratory scenario suggests the need for research into long term civic associational ICT-related practices. This could include examining concepts such digital archiving or digital exchanges that support practitioner and researcher interest in civic associations' digital: experiments, innovations or adaptations, failures, resource sharing and alliances or collaborations. Such an associational practitioner-oriented compendium or resource portal in some respects dovetails with Schuler's work on a 'civic intelligence' and his actualized virtual repository of community informatics cases and patterns for knowledge sharing (Schuler & Day, 2004: 372; Schuler 2008; <www.publicsphereproject.org>). Such a digital compendium of civic associational practices developed as a locally-based portal or archive could also support the local or regional work of civic associations. Linking such resources and data to other associational variables such as—associational resources, size, age/lifespan and pre-existing social/issue networks—could also assist in long-term scholarly research about info-sociations. Similarly, recurrent or return case studies conducted with civic associations (e.g. recurring on a 2 or 5 year period for instance) in order to re-examine and review their ICT practices and experiences would likely provide rich insights on the ongoing changes to their organizational, participatory and spatial practices.

d. Measuring info-sociations through various metrics. This exploratory research scenario suggests a need to devise metrics related to the info-sociational model and its conceptual components including organizational, participatory and spatial practices. Such an approach would assist in addressing the questions of 'how to measure info-sociations?' and 'what might constitute strong versus weak info-sociation?' for instance. Linking the six info-sociational criteria for studying associational practices, for example, to a suite of datasets or sub-indices might enable more fine-grained comparative assessments of particular ICT-linked practices. For instance such associational comparative datasets might be feature metrics such as: website traffic patterns; website analytics (e.g. campaign view/hit trends); changing website content; web link densities, patterns and g/local network links; social network ties amongst list serve members or social media members; online forum/social media commentary content analyses; mobile media app usage data; cyberactivist activity levels, and so forth (e.g. Ackland 2009; Marres 2006; 2010). An info-sociational index could employ a suite of metrics—such as the types identified above—as a complementary tool to qualitative studies of ICT praxis amongst civic associations.

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e. Further assessing face-to-face vs. digital trade-offs in associations. This exploratory scenario posits the importance of further research into the various trade-offs around going digital or choosing various ICT tools. This type of research could involve examining associational (temporal, staffing, funding) trade-offs involved with ICT tools or platform choices—including comparisons to physical or face-to-face approaches. Both qualitative and quantitative assessments of the decision-making processes, opportunity costs and discourses undertaken by associational staffers and directors would be of interest—along the lines of several of the sub-cases which this investigation has highlighted (such as TEIAs digital office experiment; OUR's Burning Map; or NSS's website migration story). Other comparative measures for these trade-offs could include comparing or assessing: the long-term fit of ICT practices with civic associational missions; problems, surprises and adaptations involved with employing ICTs; how ICTs have been linked to traditional organizing practices; long-term time and funds invested in tools or platforms; learning curves; maintenance needs; the long-term durability of ICT tools or platforms; and assessments of pre-digital approaches in the association.

f. Gauging the extent of 'associational leapfrogging,' or ICT-jumpstarted growth. This exploratory scenario suggests a need for further studying the process of ICT-jumpstarted growth amongst civic associations. Just as 'technological leapfrogging' is about overcoming barriers by bypassing traditional telecommunications for more advanced ones (e.g. see Castells et al., 2007: 216)—what has been termed in this investigation as 'associational leapfrogging' represents small associations rapidly increasing their visibility and presence through the use of ICTs for pragmatic and activist (inter)networking, mobilization, media multiplication, scalar toggling and alliance formations. Related to this scenario therefore is a need to better understand the implications of early ICT uses in civic associations for associational legitimacy, accountability or sustainability. Besides qualitative assessments of ICT practices—including successes and failures—during the start-up of new civic-cyber associations this type of research could include comparisons of start-up ICT costs; rates of digital network growth / links; details about the mix and duration of ICT tool uses, particularly during organizational start-up periods; and the various types of organizational, participatory and spatial practices linked to the association's adoption (and adaptation) of ICTs.

g. Identifying possible ICT futures for civic associations. This exploratory scenario could involve practitioners or researchers working with individual groups or joint alliances of civic associations to devise digital strategies. For example, ICT scenario-building and experience sharing exercises amongst members (or networks) of civic associations could help to identify shared ICT models and initiatives; as well as critiques of tools and platforms; along with future-oriented organizational, participatory and spatial digital needs and strategies. This also might include complementary non-digital strategies as a possible hedge against excessive external information control (e.g. by possible corporate or state means); but also to retain knowledge of 'traditional' face-to-face organizing and activist traditions. This posits the need for further research on: Tactics to address the long-term difficulties that ICTs are may be posing for staff, volunteers and directors?

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Future oriented needs (and possibilities) for ICT practices in non-profit associations? What kinds of organizational 'back up' strategies do associations have in place for retaining institutional memories of 'traditional' non-digital organizing and activist tactics? What future digital strategies do civic associations retain for continued collaborative networking amongst staffer, members, directors, interested publics and other civic associations, amongst others?

Undertaking future research to address the types of scenarios and questions posed above will add the corpus of research on ICT-practices in local civic association. Various practices comparatively identified the six case studies in this investigation—such as watchdog efforts, public sphere provocations and civic activism—suggest that civic associations can at times represent checks and balances against environmental misdeeds on the part of governments, business or the public at large. It was also clear from the case studies that the work of civic environmental associations was not only being done physically, but also virtually by drawing-upon wider public sphere involvement in watchdog and accountability functions; sometimes employing cyberactivist tactics; and via a mosaic of cyberspaces created for public dialogue, civic imagination and articulation of counterplans. The final section below further examines a number of approaches that can help to link the concept of info-sociations to 'hopeful' directions for ICT practices in civic associations.

9.3.2 An idealistic agenda in an info-sociational theory: *cyberspaces of hope*

This final section seeks to build connections between the critiques of ICT praxis and the future research scenarios outlined above. The short discussion will further sketch how an info-sociational theory might help to reveal potentialities for ICT praxis that can assist with (or complement) ongoing struggles to address civic concerns like social and environmental justice.

An integrated info-sociational approach has been identified a possible means for unpacking and understanding the uses of ICTs in contemporary civic environmental associations. Seen as emergent socio-technical assemblages and civic actor-networks—the info-sociational model can support insights into how *people and technologies co-evolve or co-create* civic associations. This suggests avoiding understanding ICTs as singularly deterministic drivers that simply shape civic associational practices; or conversely this also suggests eschewing the belief that civic associations are solely steering or fully in control of ICT practices. *How and why* information is being mediated through this dynamic coupling of ICTs and civic environmental associations (i.e. info-sociations); and how these civic groups' ideals and ideas are both being shaped by (and yet shaping of) the tools and platforms that they employ in their communicative work—email, websites, e-discussion groups, social media, GIS mapping tools, smart phone applications and so forth—has been part and parcel of this investigation. An info-sociational approach has suggested that by understanding the particularities of ICT-linked practices in civic environmental actor-networking we might better understand reconfigurations of *knowledge, power and space* inside associations and in their city-specific settings. But what do the cases and theories discussed in this investigation suggest about how associational-based ICT praxis might further instill civic hope in city spaces? Do the ICT-(re)mediated practices discussed in this

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investigation represent 'liberating tools' (Schuler 2008) for social, environmental or civic change? The remainder of this section wrestles with these questions.

As proposed in the definitions at the beginning of this investigation, info-sociations do not merely represent neutral spaces but, 'potentially transformational *digital formations* involving civic associations.' Info-sociations it was suggested involve, 'ICT-linked *praxis* where ideals and ideas in civic associations are being put into practice.' For the most part the digital tools and platforms that civic associations employ could not, on their own, be characterized as transformational. However, when combined with or augmenting other practices; when employed in civic-cyber alliance activities or 'issue network' support tools or platforms; and when multiplexing digital and grounded actions—information communication technologies clearly can play an important role in campaigns and activism. The evidence across the six case studies in this investigation supports this contention. At the same time, the critical voices of civic environmentalists in debates about the limitations of ICTs in advancing their causes (e.g. Shutkin 2000), including their socio-economic and environmental consequences, and the threats of surveillance to civil-cyber society were points that were not especially raised by the groups in this investigation. These still may well be issues amongst tiger city civic environmentalists, however, this suggests another possible front for future investigative research. Beyond critiques or threats involved in ICT practices, however, three 'hopeful' theoretical and research possibilities are suggested for advancing an info-sociational theory, or theory about ICT practices in civic associations. These three would broadly suggest:

> ***a. Further examining digital 'communities of practice.'*** Civic-cyber associations as knowledge communities and change agents are involved in the ever-shifting dynamics of power and space—as Castells' and Sassen's works have underscored. Exploring how info-sociations can help to project oft silent or unheard community voices into the public (cyber)sphere—whilst avoiding threats of commercialization and state / corporate surveillance—remains an area worthy of further research. For example, how can info-sociations support and maintain connections with community activists and elders to honour their local ecological wisdom; while also constructively questioning shortcomings?[361] Or, how can ICT practices strengthen existing grounded communities and neighbourhoods including addressing longstanding social and environmental challenges? And, what new types of autonomous (i.e. non-state, non-business) digital communities (particularly those focused on civic environmental issues) will emerge on the horizon as informational capitalism continues to take root?
>
> ***b. Exploring ICT-linked urban counter-cultural formations.*** Info-sociations inform us in novel ways about associational and urban activist (sub)cultures, including how diverse publics are morphing and coalescing to tackle longstanding local problems. As the investigation has shown (in Chapter Four particularly) ICTs are supporting novel (cyber)spaces for inter-disciplinary urban activisms and non-professional citizen voices—such as online art activism, hacktivism, clicktivism, online citizen science, do-it-yourself

[361] For example, on links between ICTs, traditional knowledge and environmental issues see: Standley et al. (2009).

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(DIY) digital reporting and online citizen journalism, amongst others.[362] Besides the affinity and affordability enabled in densely peopled and ICT-networked cities, the cases suggested that the global (tiger) city's role as key communication, cultural and media hubs remains important in shaping (and being shaped by) info-sociational practices and activisms (also see: Ip & Lam 2011). Yet, these potentialities raise more questions. For instance, how are info-sociations (re)shaping ways of seeing and knowing the city both virtually and on the ground? Or, how do civic-cyber associations link with other movements and activisms in the city and beyond? And, what digital counterpublics and countercultures are emerging and what strategies or projects for addressing social and environmental issues have they been articulating?

c. ***Envisioning info-sociations as cyberspaces of justice and hope.*** Examining connections between ICT practices and citizen's earth and street-based social and environmental justice and urban livability campaigns can also generate creative ideas about info-sociational spaces. Updating Soja's (1996) concept about *thirdspace* to include not only autonomous, experimental zones for reclaiming or recreating visions for the city—but also virtual or digital spaces and their links to physical space would suggest that info-sociational counter-spaces and cyberspaces of hope might help to support actions such as digital and multiplexed: *discourse, debate, dissent, activist projects and alternative (counter)planning; as well as civic celebration, remembrance, social learning, storytelling, cultural, and artistic creation.* These type of actions and activities—both virtual and grounded; and intertwined—again, raise more questions about the structure and role of possible info-sociations. For example, what other creative visions are emerging or possible for employing ICTs in the ongoing fight for social, economic and environmental justice in cities? And, what role might ICTs play (if any) in furthering social and environmental justice efforts, particularly amongst materially poor communities as well as citizens without a voice, or without a hope for change?

The findings from these cases of six tiger city civic environmental associations not only speak to the role of ICTs in the changing socio-technical configuration of relations amongst civic associational actor-networks—they also relate to ICTs possible role in reconfiguring knowledge, power and space in Hong Kong, Singapore and Taipei. Thus, while (as Chapter Four identified) ICTs may presently play a backbone role in each of these three global cities' strategizing as competitive staging grounds in the global 'knowledge economy' and 'advanced services sectors'—at the same time ICTs have also become critical technologies in the ongoing reconfigurations of civic space by movements, organizations and counterpublics in each city. This paradox of ICTs as economic driver or pillar and also as a platforms for g/local counterpower has some similarities to Sassen's (2005) contrasting cases of electronic markets and activist networking. For the most part, however, the ongoing reconfigurations of civic space

[362] For example, this could include studying the impacts of ICTs on alternative 'ways of knowing' the city, illustrated in several of the case studies by the uses of spatial digital tools such as online GIS map-mash-ups. Or it could involve examining the uses of mobility devices, locative social media or online forums about urban land use and environmental issues—and how this might be reshaping urban spatial and environmental literacy.

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has arguably fallen under the radar of a domineering neo-liberal discourse, focused as it is primarily on economics, trade, knowledge economy, global city competition and city 'branding'—and linked to what Castells (1996) has termed the 'space of flows.' Also under the radar, or at least far less acknowledged have been the realities of the 'spaces of place' (Castells 1996) and related civic concerns such as: public accountability, transparency, socio-economic equality, urban livability, the quality of civic space, civic engagement, and freedoms of speech and association (including digital association).

Thus while ICTs shape (and are shaped by) the 'network city' and in turn its civic spaces, this investigation has focused on a topic that has had considerably less fanfare than the hybermobility of global capital, the economics of ICTs, or the role of multinational ICT firms—that being on how civic associations as actor-networks *in* the city are shaped by and (re)shaping civic spaces. The info-sociational model employed in this investigation has assisted in providing glimpses of the diverse associational dynamics inside three distinct Asian urban-regions—and unpacking civic associational ICT-linked practices—particularly in relation to knowledge, power and space issues. To do this the investigation detailed the diverse work of six civic environmental associations whose organizational structures notably differed, but whose core grounded and virtual interests were linked to urban sustainability.

In some respects looking to the past, to the histories of the earliest cities, to associational life and to the long duration of technological practices (e.g. Mumford 1961, 1967) might also stimulate thinking about *future civic spaces*—both physical and digital. In doing so we might recall that any technology can be viewed as metaphorical *tools* for human and ecological betterment, and not just as *panaceas*. So we might recall that while not amongst the tools and platforms investigated in this study—the telegraph, the walkie talkie, the pager or the amateur 'ham' radio and CB radio could also fit the definition of ICTs employed in this study, however these tools are largely no longer part of common *contemporary* ICT practices or parlance. This discussion about socio-technological tools also includes recalling the *spaces and tools* that community activists have long employed, such as: the pen, the poster, the pamphlet, the round table, the forum, the agora, the pub and the public square, the street, the theatre, the bullhorn, the coffeehouse, and the *cha chaan teng* or teahouse, amongst numerous others.

Clearly civic and city life will continue to draw inspiration from the mixed repertoire of collective human ingenuity that devises novel socio-technical tools. Studying info-sociational practices therefore not only has provided insights into civic associational life and ICTs, it also encourages an ongoing examination of the dialectics between civil and cyber society, including the criticality in face-to-face interchanges. Besides being a mode of analysis and a conceptual signifier, an info-sociational perspective also represents a call for citizens working as staffers, volunteers or directors in civic associations to forge common knowledge alliances and 'communities of practice.' Many cities and much of civic life is now deeply intertwined within informational webs and nets of our own human creation, for better or worse. One further question remains (perhaps for future investigation): *are civic associations ably steering the uses and applications of contemporary information communication technologies towards the just and livable city for all?*

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Appendix 1: Overview of research interviews conducted for this investigation (2009-11)

First round of research interviews, Taipei (2009)

Civic Association or other organization	Date	Location
Taiwan Watch	12 February 2009	Taipei
Green Consumers Federation	14 February 2009	Taipei
Wild Bird Federation (Taiwan)	18 February 2009	Taipei
Green Citizen's Action Alliance	20 February 2009	Taipei
Delta Foundation	23 February 2009	Taipei
Homemakers Foundation	24 February 2009	Taipei
Business Council for Sustainable Development (Taiwan)	26 February 2009	Taipei
Society for Wildlife and Nature	03 March 2009	Taipei
Beautiful Taiwan Foundation	07 March 2009	Taipei
Green Formosa Front	11 March 2009	Taipei
Institute of Environment & Resources	13 March 2009	Taipei
Environmental Quality Protection Foundation	23 March 2009	Taipei
Taiwan Environmental Management Association	26 March 2009	Taipei
Organization of Urban REs	02 April 2009	Taipei
Green Party Taiwan	03 April 2009	Taipei
Taiwan Industrial Greenhouse & Energy Reduction Service Corps	06 April 2009	Taipei
Wild at Heart Taiwan	07 April 2009	Taipei
Taiwan Environmental Information Association	07 April 2009	Taipei
Taipei City Department of Environmental Protection	08 April 2009	Taipei
Environmental Ethics Foundation Taiwan	08 April 2009	Taipei
Industrial Technology Research Institute (Energy & Environmental Lab)	10 April 2009	Taipei
Taipei County Government, Environment Dept. / Climate Change	13 April 2009	Taipei
Council for Economic Planning & Development / Urban & Housing	15 April 2009	Taipei
Taiwan Environmental Stewardship Assoc. / Earth Justice initiative	15 April 2009	Taipei
Centre for the Third Sector (National Chengchi University)	16 April 2009	Taipei
Taiwan Nature Trail Society	16 April 2009	Taipei
Taiwan Vegetarians Association	18 April 2009	Taipei

First round of research interviews, Singapore (2009)

Civic Association or other organization	Date	Location
Nature Society (Singapore)	06 August 2009	Singapore
Singapore Compact for Corporate Social Responsibility	12 August 2009	Singapore
Singapore Environmental Council	18 August 2009	Singapore
Business Federation of Singapore	27 August 2009	Singapore
Climate Change Organization	28 August 2009	Singapore
Energy Asia (Renewables Report)	03 September 2009	Singapore
National Parks Singapore (Government)	04 September 2009	Singapore
Joyriders Singapore (Cycling Group)	04 September 2009	Singapore
Asia-Pacific Centre for Environmental Law (NUS)	04 September 2009	Singapore
The Climate Project (Singapore)	08 September 2009	Singapore
ECO Singapore	08 September 2009	Singapore
Nanyang Technical University (Geography)	10 September 2009	Singapore
National Volunteer & Philanthropy Centre (ex-officio)	18 September 2009	Singapore
Singapore Heritage Society	18 September 2009	Singapore
Waterways Watch Society	18 September 2009	Singapore

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First round of research interviews, Taipei, Hong Kong (2009-10)

Civic Association or other organization	Date	Location
Designing Hong Kong	27 July 2009	Hong Kong [T]
Green Sense	01 December 2009	Hong Kong
Pro Commons	02 December 2009	Hong Kong
Greeners Action	22 December 2009	Hong Kong
Conservancy Association	23 December 2009	Hong Kong
Designing Hong Kong (Second Interview)	23 December 2009	Hong Kong
Clear the Air	07 January 2010	Hong Kong
WWF (Hong Kong)	14 January 2010	Hong Kong
Hong Kong Bird Watching Society	14 January 2010	Hong Kong
Hong Kong Cycling Association	14 January 2010	Hong Kong
University of Hong Kong—Geography Department	18 January 2010	Hong Kong
Pro Commons (Second Interview)	18 January 2010	Hong Kong
Greenpeace (Hong Kong)	20 January 2010	Hong Kong
Jane Goodall Institute (Hong Kong)	21 January 2010	Hong Kong
Clean Air Network	25 January 2010	Hong Kong
Friends of the Earth (Hong Kong)	28 January 2010	Hong Kong
Hong Kong Institute of Education	02 February 2010	Hong Kong
Business Environment Council	03 February 2010	Hong Kong
Hong Kong Dolphin Conservation Society	05 February 2010	Hong Kong
Association for Sustainable & Responsible Investment in Asia	11 February 2010	Hong Kong
The Climate Group (Hong Kong)	18 February 2010	Hong Kong
University of Hong Kong—Law Faculty	25 February 2010	Hong Kong
Oxfam (Hong Kong)	26 February 2010	Hong Kong
Civic Exchange	10 March 2010	Hong Kong

[T] – telephone interview, where denoted

Second / third round of research interviews, Taipei, Singapore, Hong Kong (2010-11)

Civic Association or other organization	Date	Location
Hong Kong Internet Society	13 October 2010	Hong Kong
Taiwan Environmental Action Network (formerly) (2nd interview)	21 October 2010	Taipei
Taiwan Environmental Information Association (2nd interview)	25 October 2010	Taipei
Taiwan Environmental Protection Agency (2 interviews)	26 October 2010	Taipei
Green Consumers Foundation (2nd interview)	27 October 2010	Taipei
Organization of Urban Res (2nd interview)	27 October 2010	Taipei
Taiwan Environmental Action Network (formerly) (3rd interview)	28 October 2010	Taipei
Taiwan Environmental Information Association (3rd interview)	28 October 2010	Taipei
Coolloud Internet activist organization	29 October 2010	Taipei
Green Corridor campaigner	10 November 2010	Singapore
Singapore Environmental Council (2nd interview)	12 November 2010	Singapore
Nature Society (Singapore) (2nd interview)	15 November 2010	Singapore
Singapore Internet Research Centre	15 November 2010	Singapore
Green Drinks Singapore	16 November 2010	Singapore
Institute of Policy Studies (Singapore)	not dated	Hong Kong [T]
WWF-Hong Kong (2nd interview)	20 December 2010	Hong Kong
In-Media Hong Kong	23 December 2010	Hong Kong
Nature Society (Singapore) (3rd interview)	08 July 2011	Singapore [T]
Green Drinks Singapore (2nd interview)	11 July 2011	Singapore [T]
The Conservancy Association (2nd interview)	14 July 2011	Hong Kong
Taiwan Environmental Action Network (formerly) (4th interview)	20 August 2011	Taipei [T]
Organization of Urban REs (3rd interview)	24 August 2011	Taipei [T]
Singapore Environmental Council (3rd interview)	25 August 2011	Singapore [T]

[T] – telephone interview, where denoted

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Appendix 2 : Letter of introduction to the research investigation (for interviewees)

THE UNIVERSITY OF HONG KONG

Department of Urban Planning and Design

8/F Knowles Building, Pokfulam Rd. Hong Kong. (852)2859-2721

February 11, 2009.

RE: Asian NGO Urban Sustainability Research Project, 2008-10 (Project EA011008)

Dear NGO member/staff,

My name is David Sadoway from the Department of Urban Planning and Design (DUPAD) at the University of Hong Kong. I am undertaking the "**Asian Non-governmental Organization (NGOs) and Urban Sustainability Research Project"** and would like to invite you to participate in one or more interviews. Below, I explain my work in more detail:

1. Research Purpose

This research is for public, non-profit educational purposes only. The goal of the research will be to learn about the work of NGOs in Asian cities; particularly sustainability projects, initiatives, and organizational issues.

2. Research Process

Interviews are expected to be short (under 1-1.5 hour(s)) and may be audio recorded provided that you agree. Short site observations may take place in visits to NGO offices or project sites, with your permission, and may involve taking basic electronic/photo images.

3. Voluntary Participation and Confidentiality

Participation in this research is entirely voluntary and you may choose to stop (or ask the researcher to stop) at any point during the research without any negative consequences. Each interview is treated in confidence and participants will not be identified by name in the study. (Unless you choose to go "on the record" in which case your comments would not be anonymous). Any audio-taped or visual data will be securely stored for no longer than five years after the final study is completed. Transcripts, images and recordings will remain confidential. Whether "in confidence" or "on the record", we will also ask you to review any report write-ups that involves you or your organization.

4. More Information

Should you require further background about me or the project, I would be pleased to speak with you at you convenience. Any suggestions you have would also be greatly appreciated. Please contact me at: XXXXXXXXX o XXXXXXXX; or care of: XXXXX@hku.hk.. If you have any questions about the rights of research participants you may also contact the Human Research Ethics Committee (non-clinical) at the University of Hong Kong: (852-2241-5267).

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5. Your Participation is Appreciated

Finally, please complete the reply slip below if you understand the contents described above, and agree to participate in this research on sustainable cities. Your assistance with this study is greatly appreciated since it may contribute to a better understanding of urban sustainability and NGOs in Asia.

Yours sincerely,

David Sadoway BES, MRM PhD Candidate

Principal Investigator (Project EA011008)

Department of Urban Planning and Design

Faculty of Architecture

The University of Hong Kong

—Reply Slip—

Asian NGO Urban Sustainability Research Project, 2008-10

Name of Participant:

I _____(will / will not)* participate in the research.

(* please choose one)

Signature: _____

Date: _____

Please return to:

David Sadoway

8/F Knowles Building

University of Hong Kong

Pokfulam Road. HKSAR.

Email 1: XXXXXXXXX

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Appendix 3: Contents of online follow-up survey questionnaire (Summer 2011)

2010-11 Urban Sustainability NGOs in Asia (Hong Kong, Singapore, Taipei)
2010-11 亞洲地區（香港、新加坡、台北）有關城市永續性（/可持續性）發展的非政府組織（NGO）之研究

University of Hong Kong Research Project [Final Phase] (EA011008)
香港大學研究項目[最終階段]（EA011008）

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1. P U R P O S E (目的):
This short survey is a follow-up on interviews with civic environmentalist groups (NGOs or associations) in three Asian cities. The focus of this survey is on how associations are using information communications technologies (ICTs) in their important work. We hope that the results--when published later this year--will be of interest to your group. As before, this research is for non-profit, educational purposes only.
此簡短問卷調查旨在追蹤筆者之前在三個亞洲城市中對公民環保團體（非政府組織或團體）所進行的訪問，問卷的重點在於研究有關組織在運作中如何利用資訊通訊科技（ICT）。我們希望調查結果於年底公佈以後，同時能對貴團體有所裨益。一如以往，此研究爲非營利、僅供學術用途。

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2. CONFIDENTIALITY (保密):
This short survey will be treated in confidence. You or your organization will not be identified by name in relation to this survey, since all data will be aggregated. You may choose to stop this survey at any point without any consequences. Survey results will be securely stored for no longer than five years after the survey has closed.
此簡短問卷調查將完全保密。所搜集的資料將會加以處理，您或您所屬組織的名稱不會以任何形式出現於調查報告中。您可以隨時提出終止參與這項問卷調查。問卷結果將會妥善存放，並於調查完成後五年之內銷毀。

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3. FOLLOW-UP (後續聯繫):
If you have any questions about this survey, or my research, please feel free to contact me at: XXXXXXXXX; or at: xxxxxx@hku.hk And if you have any queries or concerns about the rights of research participants you may contact the Human Research Ethics Committee (non-clinical) at the University of Hong Kong: 852-2241-5267. We hope to provide participants with a synopsis report by the end of this year, so your participation is greatly encouraged !
如您對本次問卷調查、或筆者所進行的研究有任何疑問，歡迎隨時與本人聯絡（電話：XXXXXXXX；電郵：XXXXXXXXX@hku.hk）。如您對有關研究參與者的權益有任何問題或疑慮，請聯繫香港大學（非專線）人文研究倫理委員會（電話：852-2241-5267）。我們計劃在今年年底向是次調查的參與者發放研究報告概要，因此，您的參與是非常重要的！

Many Thanks (非常感謝),
David Sadoway田大為 BES, MRM
PhD Candidate ~ Department of Urban Planning & Design
University of Hong Kong
博士生
香港大學城市規劃及設計系

---

1) Which city is your current associational office located in or nearest to?
貴團體目前的總部辦公室位於或是最接近以下那座城市?*
( ) Hong Kong
香港

( ) Singapore
新加坡

( ) Taipei
台北

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2) How important are each of these practices in your association's current work and activities?
*以下事務對於貴團體目前的工作與任務有多重要？**

	3-High importance 非常重要	2-Moderate importance 比較重要	1-Low importance 不太重要	0-No importance 不重要	not applicable 不適用
watchdog practices 監察事務	___	___	___	___	___
natural / built conservation 自然 / 建成環境的保育	___	___	___	___	___
information & education 資訊與教育工作	___	___	___	___	___
scientific research 科學研究	___	___	___	___	___
policy lobbying 政策游說	___	___	___	___	___
grassroots organizing 策動民間組織	___	___	___	___	___
civil society alliance-building 建立公民社會聯盟	___	___	___	___	___
government partnerships 與政府合作	___	___	___	___	___
green / social enterprise 環保 / 社會企業	___	___	___	___	___
business partnerships 與商業機構合作	___	___	___	___	___

3) In relation to your association's mission and goals, please rank the relative current importance of each of the following practices:
根據貴團體的理念和目標，請將以下事務依照重要性編號排列：
(1 is relatively most important, and 10 is the least)
（1為最重要，10為最不重要）

_____business partnerships 與商業機構合作

_____policy lobbying 政策游說

_____scientific research 科學研究

_____civil society alliances 建立公民社會聯盟

_____information & education 資訊與教育

_____natural / built conservation 自然 / 建成環境的保育

_____government partnerships 與政府合作

_____watchdog activities 監察工作

_____green / social enterprise 環保 / 社會企業

_____grassroots organizing 策動民間組織

4) As best you can remember, in what year did your association start using these Information Communication Technology (ICT) tools / platforms?
以您記憶所及，貴團體是從那一年開始利用資訊通訊科技（ICT）的工具 / 平台？*
(please respond for your association, not your personal use) （請代表貴組織作答，而非您個人立場填答）

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	in 2000 or earlier (2000年或之前)	in 2001-02 之間	in 2003-04 之間	in 2005-06 之間	in 2007-08 之間	in 2009-10 之間	in 2011 (于2011)	we do not use this ICT / or no longer use (我們沒有 / 已停止利用資訊通訊科技)	not sure (不確定)
social media page 社會媒體網頁	___	___	___	___	___	___	___	___	___
micro-blog for your group 貴團體的微網誌	___	___	___	___	___	___	___	___	___
active web site 更新網站(互動式網站)	___	___	___	___	___	___	___	___	___
GIS map 地理訊息系統地圖	___	___	___	___	___	___	___	___	___
videos of your activities 活動紀錄影片	___	___	___	___	___	___	___	___	___
web logs (blogs) 部落格	___	___	___	___	___	___	___	___	___
email discussion list serve 電郵討論（電子郵箱討論串）	___	___	___	___	___	___	___	___	___
web conferences 網絡會議	___	___	___	___	___	___	___	___	___
e-newsletters 電子報	___	___	___	___	___	___	___	___	___
SMS / mobile phone alerts 簡訊 / 手機提示	___	___	___	___	___	___	___	___	___
hosting e-petitions 號召電子連署	___	___	___	___	___	___	___	___	___
formatted e-letters for causes 特定議題的格式化電子郵件	___	___	___	___	___	___	___	___	___
online surveys or polls 線上問卷調查或投票	___	___	___	___	___	___	___	___	___
online forums 線上討論區	___	___	___	___	___	___	___	___	___

5) Please tell us about any other ICT tools or platforms that your association uses, or is experimenting with:
請說明貴團體有否利用、或正在嘗試其它資訊通訊科技工具或平台:
(describe in 22 words or less) （請用少於22字說明之

6) Inside your association, do you rely more on ICT (computer-linked) networking OR in-person/face-to-face networking?
在貴團體的內部交流中，你們比較着重資訊通訊科技（電腦相關）的接觸，還是面對面的接觸？*
( ) much more ICT-linked networking 絕大部分利用資訊通訊科技接觸

( ) more ICT-linked networking 比較多利用資訊通訊科技接觸

( ) about the same 兩者差不多

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( ) more in-person networking 絕大部分利用面對面接觸

( ) much more in-person networking 比較多利用面對面接觸

( ) not applicable 不適用

7) Outside your association, do you rely more on ICT (computer-linked) networking, or in-person networking?
在貴團體的對外交流中，你們比較着重資訊通訊科技（電腦相關）的接觸，還是面對面的接觸？*
( ) much more ICT-linked networking 絕大部分利用資訊通訊科技接觸

( ) more ICT-linked networking 比較多利用資訊通訊科技接觸

( ) about the same 兩者差不多

( ) more in-person networking 絕大部分利用面對面接觸

( ) much more in-person networking 比較多利用面對面接觸

( ) not applicable 不適用

8) Alliances involve working partnerships, coalitions, joint action or affinity groups with others. How important are each of these types of alliances in your association's current work and activities?
聯盟包括合作伙伴、結盟、共同籌辦活動或與其它團體達成直屬關係。請問下列幾種聯盟形式對貴團體有多重要？*

	3-High importance 非常重要	2-Moderate importance 比較重要	1-Low importance 不太重要	0-No importance 不重要	not applicable 不適用
civic associational 與公民團體聯盟	___	___	___	___	___
governmental 與政府聯盟	___	___	___	___	___
international 與國際組織聯盟	___	___	___	___	___
neighbourhood 與社區團體聯盟	___	___	___	___	___
religious alliances 與宗教團體聯盟	___	___	___	___	___
social movement 與社運團體聯盟	___	___	___	___	___
local grassroots 與民間團體聯盟	___	___	___	___	___
labour movement 與工人運動團體聯盟	___	___	___	___	___
business 與商業團體聯盟	___	___	___	___	___
academic 與學術團體聯盟	___	___	___	___	___

9) Estimate how many alliances, coalitions or partnerships your association has been involved with during the past five years?
請概算一下，在過去五年內，貴團體曾經達成過多少個聯盟、結盟或合作夥伴關係？*
( ) none (沒有)

( ) 1-10

( ) 11-20

( ) 21-30

( ) over 30 (超過30)

( ) not applicable (不適用)

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10) Please estimate the numbers of alliances that your association has been involved with at different geographic scales?
請概算一下，貴團體所達成的聯盟是涵蓋多大的地理規模？*

	over 7 alliances (7個以上聯盟)	4-7 alliances (4-7個聯盟)	1-3 alliances (1-3個聯盟)	0 no alliances (0個聯盟)	not applicable (不適用)
neighbourhood scale 社區規模	___	___	___	___	___
urban scale 市區規模（/城市規格－縣市鄉鎮）	___	___	___	___	___
regional scale 區域性規模	___	___	___	___	___
national scale 國家規模	___	___	___	___	___
international scale 國際規模	___	___	___	___	___

11) How important are these factors when your association decides to enter an alliance, partnership or coalition?
貴團體在決定組成聯盟、結盟或合作夥伴的時候，以下考慮因素有多重要？*

	3-High Importance 非常重要	2-Moderate Importance 比較重要	1-Low Importance 不太重要	0-No Importance 不重要	not applicable 不適用
shared technical or scientific expertise 共享技術或科學專長	___	___	___	___	___
reduced staff & financial burdens 減輕人員與財政負擔	___	___	___	___	___
strength in numbers & solidarity 增強人馬、團隊精神	___	___	___	___	___
shared & greater media coverage 共享及增加見報率	___	___	___	___	___
shared values or goals 共同的理念或目標	___	___	___	___	___

12) Of the alliances your association has been involved with at different scales, how important of a role have ICTs played in their support, or formation? 在貴團體所達成不同規模的聯盟當中，資訊通訊科技（ICT）在有關聯盟的形成過程或協助有多重要？*

	3-High importance 非常重要	2-Moderate importance 比較重要	1-Low importance 不太重要	0-No importance 不重要	not applicable 不適用
neighbourhood scale 社區規模	___	___	___	___	___
urban scale 市區規模（/城市規格－縣市鄉鎮）	___	___	___	___	___
regional scale 區域性規模	___	___	___	___	___
national scale 國家規模	___	___	___	___	___
international scale 國際規模	___	___	___	___	___

13) How do ICTs change your associational daily workload (for staff, volunteers, directors) ?
資訊通訊科技（ICT）對貴團體的日常工作量（一般員工、義工、總監）有何影響？*

( ) much more workload 工作量大增

( ) more workload 工作量稍增

( ) about the same 差不多

( ) less workload 工作量稍為減少

( ) much less workload 工作量大減

( ) not applicable 不適用

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14) Who does your association involve in addressing its ICT needs? 在貴團體裡，是由誰負責有關資訊通訊科技（ICT）的需求？* (You may choose more than one) （可複選）

[ ] associational webmaster / IT person 組織內的網絡主管 / IT專員

[ ] contracted webmaster / IT person 合約雇用的網絡主管 / IT專員

[ ] associational volunteers / interns 組織內的義工 / 實習生

[ ] associational staff 內的一般員工

[ ] associational directors 組織內的總監

[ ] none of the above 以上皆不是

15) How important have these factors been in influencing when your association decided to use ICTs (i.e. tools, platforms, or hardware)? 以下的因素對貴團體選擇利用資訊通訊科技（例如：工具、平台或硬件）有多大影響？*

	3-High Importance 非常重要	2-Moderate Importance 比較重要	1-Low Importance 不太重要	0-No Importance 不重要	not applicable 不適用
capital & operating costs 資金與運作成本	___	___	___	___	___
staff training time or learning curve 員工的培訓或學習所需時間	___	___	___	___	___
energy efficiency 節省能源	___	___	___	___	___
fair labour practices 對員工的公平性	___	___	___	___	___
disposal or recycling management 資源回收處理	___	___	___	___	___
threat of reducing face-to-face contact 憂慮面對面接觸將會減少	___	___	___	___	___
excessive commercialization or advertising 過度商業化或過度宣傳	___	___	___	___	___
corporate or state monitoring 受到企業或國家的監控	___	___	___	___	___
mediation potential or DIY media 作為中介的潛力或自製媒體	___	___	___	___	___
durability or long-term sustainability 持久性或長遠可持續性	___	___	___	___	___
compatibility with existing systems/platforms 與現有系統/操作平台的兼容性	___	___	___	___	___
complements existing activities 輔助現有的活動	___	___	___	___	___
threats to security 對安全性的疑慮	___	___	___	___	___
privacy threats 對私隱的疑慮	___	___	___	___	___

16) ICTs are distracting your association from other important civic work--do you agree or disagree? 「資訊通訊科技會令 貴團體偏離其它更重要的公民工作」-- 您同意嗎*

( ) strongly agree 非常同意

( ) agree 同意

( ) neutral 中立

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( ) disagree 不同意

( ) strongly disagree 非常不同意

( ) not applicable 不適用

17) In your opinion how important are the overall uses of ICTs to your association in the following areas:
您認為資訊通訊科技（ICT）的運用對貴團體在以下範疇裡有多重要？*

	3-high importance 非常重要	2- moderate importance 比較重要	1-low importance 不太重要	0-no importance 不重要	not applicable 不適用
enabling greater geographic reach 可以覆蓋更大的地理區域	___	___	___	___	___
increasing potential alliances 增加聯盟的潛力	___	___	___	___	___
strengthening internal activities 增強內部活動	___	___	___	___	___
strengthening external activities 增強對外活動	___	___	___	___	___
creating new spaces for public participation 創造讓公眾參與的新平台	___	___	___	___	___
providing tools for civic activism & mobilization 作為公民主義和策動公民運動的工具	___	___	___	___	___

18) Please compare the relative importance of your association's uses of ICTs in the following activities:
請比較一下資訊通訊科技（ICT）的運用對貴團體在以下活動中的重要性：
(1 is relatively most important, and 6 is the least)
（1為最重要，6為最不重要）

_____increasing potential alliances 增加聯盟的潛力

_____strengthening external activities 增強對外活動

_____creating new spaces for public participation 創造讓公眾參與的新平台

_____strengthening internal activities 增強內部活動

_____providing tools for civic activism & mobilization 作為公民主義和策動公民運動的工具

_____enabling greater geographic reach 可以覆蓋更大的地理區域

19) ICT uses by the government in government-led civic engagement processes are useful---do you agree or disagree?
「資訊通訊科技（ICT）的運用對於政府主辦的公民參與過程是很有幫助的」-- 您同意嗎？*
( ) strongly agree 非常同意

( ) agree 同意

( ) neutral 中立

( ) disagree 不同意

( ) strongly disagree 非常不同意

( ) not applicable 不適用

20) In your city the digital divide (poor access, or ICT illiteracy) makes it difficult for the grassroots to connect to civic associations---do you agree or disagree? 「在您所在之城市，"電子鴻溝 / 數位落差"（如貧窮家庭的購買能力有限、資訊通訊科技的文盲）會導致草根階層很難與公民組織接觸」-- 您同意嗎？*

( ) strongly agree 非常同意

( ) agree 同意

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( ) neutral 中立

( ) disagree 不同意

( ) strongly disagree 非常不同意

( ) not applicable 不適用

21) Please rank the relative importance of government's role in ICT activities in your city:
請按照以下資訊通訊科技（ICT）的活動對您所在城市政府的重要性排列：
(1 is relatively most important, and 6 is the least)
（1為最重要，6為最不重要）

_____increasing ICT uses for civic engagement 利用資訊通訊科技（ICT）以加強公民的參與

_____addressing digital divide & access issues 解決"電子鴻溝 / 數位落差"和貧窮家庭購買電腦的問題

_____improving transparency in government 增加政府的透明度

_____protecting civil society free speech & privacy 維持公民社會的言論自由與私隱權利

_____addressing digital literacy issues "數位文盲"的問題

_____assisting civic groups with training & hardware 向公民團體提供培訓和硬件的協助

22) Estimate the proportion (%) of different funding sources for your association:
請概算一下 貴團體的財政來源之百分比（%）：*
(enter between 0-100 for each item--the total must equal 100%)
（請於每一項目輸入0-100—總數必須等於100%）

_____membership fees 會員費

_____government funds 政府資助

_____international sources 國外來源

_____business / corporate sources 財團 / 企業來源

_____fundraising / social enterprise projects 籌款 / 社會企業項目

_____other sources 其它來源

23) Please add any information about your association, or any concerns that you feel are not represented in the questions above:
請提供任何有關 貴團體的補充資料，或是您認為以上問卷未能覆蓋的其它問題：
To confirm that your submission is legitimate please provide your name and organization. All responses will be treated IN CONFIDENCE in accordance with University of Hong Kong research policies. If you are interested in accessing our final report(s) please include your e-mail address below.
為了確認您對是次調查的參與，請提供您和
貴團體的名稱。所有答案將會參照香港大學的研究政策，絕對保密。如您有興趣閱讀是次研究的最終報告，請在下面寫上您的電子信箱。
Associational Name 團體名稱: *: _____

FAMILY Name 姓: *: _____

Given Name 名: *: _____

(optional) E-mail Address（可選擇）電郵地址: : _____

Thank You! 謝謝！非常感謝您參與是次問卷調查！
您所提供的資料將會對在香港、新加坡和台北三地，有關公民環保主義和資訊通訊科技的運用之比較研究帶來莫大的幫助。如您已經提供您的電子信箱，我們將在研究完成之後，將報告寄給您。

Thank you for taking our survey ! Your responses will support our comparative research on civic environmentalism and associational ICT use in Hong Kong, Singapore and Taipei. If you've left your email address we will send you a copy of the report when it is completed.

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