Advancing sustainable development at the local level: The case of *machizukuri* in Japanese cities

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Abstract

Since the launch of LA 21 in 1992, local governments in many countries have been seeking to improve sustainability. Various studies have been conducted in the past two decades. A brief review of the literature reveals general progress in citizen participation and a shift from the agenda-setting stage to action, including the Cities and Climate Change Initiative (CCCI). However, the difficulty of taking a three-dimensional (environmental, economic and social) sustainability approach is being experienced in many places. Local communities are therefore adapting sustainable development to their individual context. Some past studies have investigated what influences local sustainability performance; this includes such factors as institutional capacity and the availability of community networks and champions in the public, private, and voluntary sectors. Drawing on their findings, this paper examines in particular the workings and effects of community networks in targeting sustainable development at the local level; it looks at three examples of current action towards sustainability in Japanese cities, focusing on social capital networks and the role local government is playing in the process. Investigating quantitatively whether social capital accumulation through citizen participation does in fact make a difference in the progress towards sustainability, and also examining qualitatively how it is possible to generate and make the most of social capital networks towards the same end, this paper concludes that social capital accumulation can indeed make a difference to the level of sustainability that can be achieved, but that the types of governance and of networks available in communities also make a difference to LA 21 outcomes. There is an essential role for local government to play: that is to (1) create an environment in which citizens empower themselves by collaboratively making the rules for participation, and (2) identify key individuals who connect the various networks and involve them in the development of sustainability strategies; thereby expediting the process of reaching the stage where local government and citizens share the same sustainability goals.

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1. Introduction

The definition of sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This involves two key concepts: first, the concept of 'needs', particularly the essential needs of the world's poor, and second, the idea that the state of technology and social organisation imposes limitations on the environment's ability to meet present and future needs (WCED, 1987, p.43). Hence, the Brundtland

Report concluded that sustainable development is impossible while poverty and massive social injustices persist, and gave equal emphasis to intra-generational equity alongside the more straightforward environmental principle of intergenerational equity (Carter, 2001, p. 204). Lafferty (2004, p. 15) views the concept as a distinct mode of national development alongside three other modes (market liberalism, social-democratic liberalism and eco-modernisation): sustainable development is committed to preventing and redressing environmental-ecological degradation within an integrated value

framework of generational and global equity. Accordingly, Agenda 21 – adopted in 1992 at the Rio United Nations Conference on Environment and Development (UNCED) – called on central governments to adopt national strategies for sustainable development (SD) and placed most of the responsibility for leading change on national governments, inferring that they should ensure their policies are mutually reinforcing and should encourage business, industry and communities to make choices that are compatible with and enhance sustainable development. This still leaves considerable scope for action at the local level. City level governments were already engaged in such action: ICLEI (Local Governments for Sustainability) had been established in the previous year by the IULA (International Union of Local Authorities) and the UNEP (United Nations Environmental Programme) to represent the environmental concerns of local government internationally. However, it was only after the 1992 Rio Conference that cities were fully recognised as an arena through which sustainability should be pursued; Jeb Brugman, then secretary general of ICLEI, worked with the UNCED secretariat to create Chapter 28 of Agenda 21 (Bulkeley & Betsill, 2003, pp. 26–29), which proposes that because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and cooperation of local authorities will be a determining factor in fulfilling its objectives. He therefore called for local authorities to establish by 1996 a Local Agenda 21 (LA 21) through participation with their communities (Lafferty & Eckerberg, 1998, p. 263).

Ten years later at the World Summit on Sustainable Development, held in 2002 in Johannesburg, Local Action 21 was launched by the leaders and representatives of local governments.[1] It was intended as a follow-up to LA 21, encouraging progress from agenda to action. Local Action 21 emphasises the accelerated implementation of sustainable development measures. Tang, Brody, Quinn, Chang, & Wei (2010, p. 42) summarises its focus as: (1) identifying and removing barriers to sustainable development (e.g. poverty, injustice, conflicts and an unhealthy environment); (2) reducing resource depletion and environmental degradation; and (3) ensuring effective implementation, monitoring and continuous improvement. By 2004, approximately 5000 local governments across Europe had some kind of local sustainable development process in operation, of which about 2300 had signed the Aalborg Charter committing themselves to the process and specifying 'concrete actions' to be taken to secure more sustainable lifestyles in their localities; much of the negotiation was conducted under the umbrella of the European Sustainable Cities and Towns Campaign, supported by the European Commission and European local government networks (Evans, Joas, Sundback, & Theobald, 2005, p. 5). Observers noted that these various networks – ICLEI, Eurocities, the Climate Alliance and others – are very influential in disseminating knowledge and good practice for improving local sustainability (Evans & Theobald, 2001; Joas, Gronholm, & Martar, 2001).

Climate change adaptation and mitigation are also a critical part of Local Action 21. Initiated in 1993, run by ICLEI, and funded by USAID, the Cities for Climate Protection (CCP) Campaign assists cities in adopting policies and implementing quantifiable measures to reduce local greenhouse gas emissions, using software tools developed by ICLEI.[2] In the US there are 1055 mayors from the 50 States, the District of Columbia and the Commonwealth of Puerto Rico who have signed the US Conference of Mayors Climate Protection Agreement,[3] and more than 600 local governments had become members of the Cities for Climate Protection (CCP) Campaign by July 2010 (Millard-Ball, 2011, p. 2). Bulkeley and Betsill (2003, pp. 2–18) argue that the CCP programme is part of a shift towards multilevel governance in relation to climate change; these transnational local government networks represent an alternative mode of governance to the traditional hierarchy of global, regional, national and local entities.

In the past two decades, a number of research projects on the uptake of local action for sustainability have been undertaken. Evans et al. (2005) conducted an investigation of local sustainability policy and practice in 40 European cities as part of the Developing Institutional and Social Capacities for Urban Sustainability (DISCUS) programme. As the name implies, they examined the factors and conditions required for governance in achieving sustainable urban development. Their research findings suggest that when local governments are given a higher degree of autonomy, they respond to the challenge of achieving sustainability by being more proactive and adventurous in their policy-making and implementation. While national legislation and policy priorities are key drivers, the

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[1] http://www.joburg.org.za/index.php?option=com_content&task=view&id=1015&Itemid=114.

[2] http://www.iclei.org/index.php?id=810; http://www.enviropaedia.com/topic/default.php?topic_id=268.

[3] http://www.usmayors.org/climateprotection/revised.

findings of Evans et al. (2005) suggest that this very positive attitude is also an effect of subsidiarity, where each level of government has its own sphere of authority and action, in contrast to a hierarchical relationship of different levels of government. As a second crucial success factor, Evans et al. suggest the role of key individuals who drive the process forward; often noted in the DISCUS case studies are 'entrepreneurial' executive mayors displaying the charisma to motivate others, and officials who act as the key link between local governments and civil society organisations by bringing expertise and new ideas to the process. The third success factor they note is 'institutional capacity'; in other words, "human, organisational, learning, knowledge and leadership" factors. They find a clear association between high levels of sustainable development achievement and high levels of institutional capacity. 'Stakeholder engagement' and 'social capacity' are also recognised as success factors along with 'trust, consent and informal links'. A high level of achievement in sustainable development was almost always found to be linked to a high level of dialogue (often referred to as informal 'partnerships' or 'alliances') between local government and civil society. Looking at social capacity, they observe a greater degree of civil society activity and knowledge regarding sustainability issues in those of the 40 cities investigated that exhibit 'success'.

In his report describing more recent developments in local action for sustainability, Olsson (2009) observes four Swedish local governments in the region of Örebro that are adapting to sustainable development in quite different ways, from local transition processes (Hällefors and Örebro) to resistance and ignorance (Karlskoga and Lekeberg). He puts this variation down to local context and finds that policy areas and development projects themselves sometimes form part of the context. Noting that the spreading of ideas leading to convergence among the four cities has not occurred, Olsson concludes that some degree of freedom, rather than judgement by the authorities or experts, may help in achieving local sustainability step by step at the grass-roots.

Portney and Cuttler (2010) examine the pursuit of sustainability in 13 medium-sized (population: 400,000–600,000) US cities and find 37 different local programmes. They note that the cities that are more serious about sustainability display more interaction between local public officials and non-profit organisations.

Hoppe and Coenen (2011), using the data set by a Dutch sustainable performance tool (LSM), examined which factors contribute to variations in local sustainability policy performance. Following a literature review

and a retrospective review of the development of local sustainability in the Netherlands, they identified a range of factors, mainly (intra-)organisational – e.g. size, capacity, presence of a knowledge mix, contacts and partnerships, presence of a full-time expert, a local catalyst – and they argue that greater municipality size and membership of international or regional networks positively influence local sustainability performance. However, they are unsure if these factors actually make cities more sustainable in terms of actual policy outcomes.

The importance of local political support in advancing sustainable development was noted by Bulkeley and Betsill (2003, p. 185); they argue that the interpretation and implementation of climate protection locally is a political issue. Bulkeley and Betsill examined whether the participation of local governments in transnational networks enhanced their ability to develop new greenhouse gas-related policies and programmes by investigating six cities (all CCP programme members) in the UK, the US and Australia. In general, they found that the CCP programme had had the greatest impact among local authorities where established systems of monitoring and reporting of local emissions led to frequent interactions between the local authority and the CCP programme; where the programme created access to additional financial resources; and where individuals could gain knowledge and kudos through participation in the programme. They think of these local authorities as having 'open' connections to the network, thus creating dense webs of interactions that make it more likely the network will be maintained.

Information about the progress of LA 21 action in Japanese communities since 2000 is available in the reports published by a group of 13 NGOs/NPOs in different parts of Japan headed by the Kyoto-based Citizens Environmental Foundation (*Kankyo Shimin*) (National Eco-City Contest Network, 2009). They ran Japan's "Top Eco-City Contest" annually from 2001 to 2010,[4] based on a questionnaire survey. Although the number of municipalities that entered the contest was initially rather low at 229 (only about 13% of the total, due probably to the requirement to answer 60 pages of questions), some became well known for their innovative measure[5] and this encouraged other municipalities to

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[4] http://eco-capital.net/modules/project/ecocap/.

[5] Iida City in Nagano Prefecture, Anjo City, Okazaki City, and Shinshiro City in Aichi Prefecture, Amagasaki City in Hyogo Prefecture, Kumamoto City in Kumamoto Prefecture, Kakegawa City in Shizuoka Prefecture, Ube City in Yamaguchi Prefecture, Itabashi-Ward in Tokyo etc.

participate despite the fact that the questionnaire increased to more than 200 pages in recent years. Over time the average performance level has risen gradually; the average score of participating municipalities rose from 22% in the third contest to 31% in the tenth.[6] After observing the 10-year development of the Eco-City contest, Ikuo Sugimoto, a former Kyoto City staff member who became the head of the Citizens Environmental Foundation (NGO) and the leader of the Eco-City Contest Network, considers the following factors to be important for improving local sustainability performance.[7] First is the training of municipal staff able to coordinate and build consensus while showing respect towards citizens. He observes that all municipalities producing innovative sustainability measures have staff members with such skills. Second is the need for citizen involvement in city planning, backed by citizen empowerment measures. Third is the inclusion of measures that are mutually beneficial in terms of the economic, environmental and social dimensions in order to make the most of municipalities' limited human and financial resources (while admitting that this is extremely difficult). Fourth is the administrative level: namely reform of management, budgeting, and using an evaluation system to achieve integrated policy-making. Fifth is the importance of offering citizens a clear vision for a sustainable society, with analysis of issues and a monitoring system, and finally the exchange of information about best practice with other municipalities.

While much less information is available about experience in East Asian countries, including Japan, accounts of local action for sustainability in the literature over the past decade seem to indicate that important factors influencing local sustainability performance include the level of institutional capacity of cities and municipalities; resources arising from network connections, and the presence of committed individuals and champions who mobilise others and promote processes that enhance local policy and sustainability programmes (Hoppe & Coenen, 2011; Portney & Cuttler, 2010; Morotomi, 2003; Rydin & Falleth, 2006; Evans et al., 2005; Rydin & Holman, 2004; Bulkeley & Betsill, 2003). Learning from these results, this paper examines in particular the workings and effects of community networks on the level of local sustainability performance; it looks at three examples of local action toward sustainability, using Japanese case studies with particular regard to the presence of social capital networks, the types of social capital available locally, the different outcomes they bring about, and the role local government is playing in community building.

Although there have been a number of explicit efforts by Japanese cities to promote LA 21 approaches (ICLEI, 2002; Barrett & Usui, 2002), the terms most commonly used in discussions of action for sustainability in Japan are 'citizen participation' (*shimin sanka*) and *machizukuri*, aptly translated by Evans (2002) as community/neighbourhood planning, implying substantive citizen involvement in city planning or autonomous neighbourhood planning. This has been a nationwide phenomenon at different levels (city, town, village, and neighbourhood) in Japan over the past three decades or more. What we are seeing especially in neighbourhood and village *machizukuri* processes is citizens reviving community management in new forms to cope with a new situation, i.e. one where the economic, environmental and social sustainability of these communities is at risk. The rest of this chapter briefly explains community planning (*machizukuri*), and the role of municipalities and key sustainability concerns in Japan, followed by a conceptual and methodological explanation of the research in Chapter 2. The three case study chapters which follow investigate one rural, one small industrial, and one big city (major historic centre). These three cities were chosen because each works on achieving sustainability in a different governance style. Takashima and Yasu, while having a similar population size (about 50,000), display the working of different types of social capital networks and, Kyoto, with a population 30 times bigger than the other two, exhibits its own way of achieving economic, social and environmental sustainability, with different networks exploring their way to co-exist/collaborate to achieve sustainability goals. Of the three, Takashima City represents a traditional type of rural Japanese community where bonding social capital has maintained the community's governance. Yasu City is a case where empowered citizens have been developing community planning (*machizukuri*) processes in collaboration with city staff members, who share their enthusiasm for *machizukuri*. Kyoto is a case that represents big city *machizukuri* and at the same time one that displays the transitional phase of mixing of old neighbourhood networks and new bridging networks. Chapter 6 examines the effect of social capital on the cities' sustainability performance quantitatively; and Chapter 7 presents the findings and conclusions of the study, while considering the relevance of the LA 21 approach in a

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[6] http://www.eco-capital.net/modules/project/ecocap/report10/index.html.

[7] http://www.eco-capital.net/modules/project/ecocap/result.html?PHPSESSID=7e67489722fab2f164c7251ebd47cce3.

period when there is increasing concern about extreme weather events and other natural disasters becoming more frequent, widespread, and/or severe.

1.1. Community planning (machizukuri) in Japan

1.1.1. Civil society in Japan

Schwartz (2003) argues that Japan's civil society – "with its western institutions but eastern cultural background" (Broadbent, 1998, p. 6) – provides a perfect case for cross-national testing to determine the scope of the applicability of western theories on civil society. Depending on the definition of civil society, however, analyses of Japanese civil society may differ greatly in their conclusions. Schwartz (2003, p. 23) defines civil society as "that sphere intermediate between family and state in which social actors pursue neither profit within the market nor power within the state", while Pekkanen (2006, p. 3) defines it as the "organised, nonstate, nonmarket sector". Garon (2003, pp. 42–44) acknowledges that there are two extremes in the analysis of Japan's civil society: at one end lie those who see a powerful 'emperor-system state' and at the other are historical studies which seek out evidence of a vibrant society, a public sphere, or a consumer culture operating outside the state apparatus. Garon finds it difficult, in fact, to analyse modern Japan by applying the western concept of 'civil society', especially its modern version which originated in the American and French revolutions and describes a society lying outside of state control, and monitoring and limiting state authority. If however we go back to the original Greek or Roman version, with its 'self-governing towns or cities', the concept explains well the traditional Japanese town or village community's self-management system. Curtis's (1997, p. 141) definition of civil society seems closer to the Greek/Roman model: "in terms of traditions of local self-rule and the existence of a multitude of voluntary organisations, Japan has always had a stronger civil society than neighbouring countries (and a much stronger one than is often presumed to be the case, by both Japanese and foreigners)." However it is also true that Japan differs from many western democracies in that, "despite post-war constitutional guarantees of freedom of association, popular activism has been significantly curtailed by government regulation and restrictions" (Hirata, 2005, p. 417), and as a result Pekkanen (2003) concludes that the state has shaped civil society in Japan. As Schwartz (2003, p. 14) suggests, referring to the great Hanshin-Awaji (Kobe) Earthquake of 1995 which killed 6430 people and forced 310,000 to evacuate, "the most dramatic demonstration of the limitations of the state and the growing prominence of civil society came at that time". Drawing 1.34 million volunteers from inside and outside Japan during the following 8 months, the incident indeed revealed the existence of Japan's own civil society as well as the global one. In March 2011, the Japanese people were again put to the test in dealing with a much more complicated and challenging disaster, which left 16,000 dead and required the evacuation of more than 330,000 others (Nikkei, 29 Dec. 2011). Up to the end of November 2011, the number of Japanese and foreign people volunteering in the Tohoku area was reported to be about 900,000.[8] Although recovery of the area is clearly still in its early stages, an editorial in Nikkei (Japan's equivalent of the Financial Times: 30 December 2011) commented that "the recovery from the disaster was nevertheless surprisingly rapid, because many companies mustered their resources": supply chains had largely recovered within 6 months, and corporate Japan had made their best endeavours, such as using their nationwide networks to keep supplying groceries and other resources to the affected areas, as well as offering new factories to accommodate thousands of evacuees. Citizens' voluntary groups used their networks to transport food and other daily necessities to the tsunami-hit areas: a citizens' group of 40 helicopter licence-holders with experience from the 2008 Iwate-Miyagi earthquake (M7.2) started transporting food from the day after the Earthquake without waiting for the recovery of rail/road traffic, while another group of 300 victims of the 2008 earthquake made 4000–5000 rice balls daily to transport to affected areas, starting 4 days after the tsunami, in gratitude for the help they received in 2008 (Nikkei, 23 March 2011). These examples illustrate what civil society can do at the grass-roots without any top–down guidance. Nevertheless, responding to a crisis like this is different from tackling a complex on-going goal such as sustainability, which requires long-term collaborative planning and action (Healey, 2006).

On the question of civil society organisations in Japan, Pekkanen (2006, p. 30) categorised 1,624,539 such entities based on information from Tsujinaka and Mori (1998) and Yamauchi (1997): 74.6% of them were groups with no legal status, with 18% being neighbourhood associations, 9.2% elderly people's groups, 8.0% children's groups, 36.8% other civic groups, and 2.6% voluntary groups with offices, while the other 25.4% were groups with legal status, the breakdown of this

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[8] http://www.rescuenow.net/2011/12/9-12.html.

25.4% being 11.3% religious groups, 4.5% political groups, 2.7% NPO legal entities, 1.6% foundations, 1.5% cooperatives, 1.4% medical groups, 1.0% education groups, 0.8% social welfare groups, and 0.53% neighbourhood associations. As a new development, the number of NPO legal entities had increased five times from 7634 in 1998 to 39,214 by 31 January 2010[9] thanks to the 1998 NPO Law which has made it somewhat easier for citizens' groups to obtain legal status. NPOs are indeed a growing force, but it is generally considered in Japan that community-based organisations (CBOs), especially neighbourhood associations (NAs), are one of the main actors in Japanese civil society due to their high participation rate. In regard to the average participation rate of households in NAs, the 2003 survey of the Ministry of Internal Affairs and Communications (MIC) shows an average of more than 90% of households participating in community-based organisations (CBOs) in 66.2% of CBOs, with a 70–90% rate in another 21% of CBOs.[10] The NA participation rate varies considerably with the locality however. For example, the rate in Moriyama City (population 67,000, Shiga Prefecture) was 96.4% (2010), while in Higashiomi City (population 120,000, Shiga Prefecture) it was 80.3% (2011), and in Yokohama (population 3.5 million), near Tokyo, it was 77.2% (2011). NAs are mainly involved in helping elderly people and young mothers in their daily life, maintaining a safe and clean living environment, preventing fire/crime/traffic accidents, making preparations for disasters, and providing socialising opportunities to community citizens (Nakamura, 1968).

We have seen that there are contrasting views about the relationship between the Japanese state and civil society. Some foreign observers are sceptical about the extent to which real power is being gained by civil society, pointing particularly to the continuing power of state actors in shaping its development (Garon, 2003; Pekkanen, 2003; Sorensen & Funck, 2007). The relationship between neighbourhood associations and local government differs from locality to locality; although some have ceased to maintain any connection with local government, most have a close, or at least a working, relationship (Iwasaki et al., 1989, p. 7). The current state/civil society relationship in Japan should be understood as one of a working give-and-take or collaborative relationship, based on negotiations that

are largely conducted with mutual respect for each others' goals. Many of today's NAs are endeavouring to reform their self-management system to meet their communities' current needs. A new development is the *machizukuri* council, where citizens, city officials and in some cases planners, consultants and researchers work together to achieve the community's goals. In many cases *machizukuri* councils, started from scratch by citizens with initial funding from local authorities, function side by side with NAs and are searching for ways to work together. Some *machizukuri* council cases in Kyoto City and Shiga Prefecture are examined in the case studies that follow.

1.1.2. Machizukuri (community/neighbourhood planning)

Machi literally means a local community and its physical setting, and *zukuri* means the act of making with care, as in the expression 'hand-made' (Watanabe, 2007, pp. 40–41). In contrast to the statutory city planning system (*toshi keikaku*), established in Japan in 1919, *machizukuri* has the positive connotation of residents building their own living environment, reflecting their own values and lifestyles, and is seen as a radical departure from the conventional centralised, top–down, 'civil engineering' approach of Japanese urban planning, even playing an important role in the regeneration of Japanese civil society over this period (Evans, 2002, p. 443). Sorensen and Funck (2007, pp. 269–276) observe that the thousands of *machizukuri* processes established nationwide display enormous diversity; everything from the most quintessentially grass-roots activities to relatively traditional government-led development projects to voluntary social welfare service is hailed under the *machizukuri* (community/neighbourhood planning) banner, demonstrating that small-scale place making can actually be achieved with little support from the state, and little financial outlay. As they observe, neighbourhood *machizukuri* does not necessarily involve municipal governments or officials. Neighbourhood associations and *machizukuri* councils or committees deal directly with community problems that are within their capacity, or seek outside help by networking with expert organisations or citizen groups. Examples will be discussed in the Kyoto case study. Hirohara, an urban scholar and *machizukuri* expert, sees the current development of *machizukuri* as follows:

> Machizukuri has raised citizens' awareness of the value of 'participation' and fostered a sense of ownership of the process. Recently young participants

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[9] https://www.npo-homepage.go.jp/.
[10] http://www5.cao.go.jp/seikatsu/whitepaper/h19/10_pdf/01_honpen/pdf/07sh_0201_2.pdf.

and volunteer organisations take up, as part of machizukuri, what they want to do and what they can do in a more free and easy manner to try out different kinds of things. This free and easy participation in machizukuri is becoming part of their daily life. This is a new trend which is different from that of the period of social movements where citizens stood up to protest. This is a process where citizens and residents are bringing the ownership of city planning back into their own hands as something which is quite natural for them to involve themselves in after a long period in which citizens were excluded from the planning process (Hirohara 11 March 2005, Citizens' Forum).

Students of Japanese society note that before the gradual establishment of the present municipal administrative system in the two decades to 1889, when Japan's first modern constitution was promulgated, there was a history of village communities' citizens managing common resources such as rivers, forests and shrines in accordance with an autonomous community management system that had evolved over time. Systematic capacity building was incorporated in the management system with children given certain roles in the management of the commons according to their age group (Kada, 2002, p. 41). It was a community's self-governing management, based upon trust and mutual support. Going further back in history, old records prove that 'machi-kumi' (communities that protect and autonomously manage themselves) already existed in Kyoto, then the capital, in 1529 – in the century-long civil war period (Takahashi, 1979, pp. 169–173). While the traditional community management system was replaced, in theory, with the start of a new administrative system, it is not clear to what extent in different cities and their communities the traditional system was eliminated, or was in fact maintained for all the functions which were not covered by the new system, which was not well funded. I hold that the spirit of self-help and self-management of communities had become part of the fabric of people's value system or their 'lifeworld', and that the same spirit has been the driving force of the boom of machizukuri (community planning) seen most obviously in the aftermath of the 1995 Hanshin Awaji (Kobe) Earthquake (Hirohara, 2002; Inui, 2003; Nishibori, 2008) and that of the 2011 Tohoku Great Earthquake. The strength of this enduring spirit can also be seen in the fact that neighbourhood associations continued their activities in Kyoto City and elsewhere under different names such as Red Cross Voluntary Organisation, Culture Committee or

Educational Society, even after the US ban on the system after the war, based on the claim that the government had used them for collecting donations and food rationing, etc., and had made them quasi-governmental (Pekkanen, 2006, p. 102) organisations in 1940 (Iwasaki et al., 1989, p. 7; Sorensen, 2012, p. 172). Among scholars who have examined people's life and the values they held in those transitional times are Nitobe, Inoguchi and Ikegami. Inoguchi (2007, pp. 9–10) defines culture as a ''relatively well-integrated set of values and norms, principles and practices, and institutionalised interactions among similarly collectively socialised populations'', and argues that the Japanese cultural evolution in terms of social capital started in the 16th century, the era of civil wars, when a sense of 'civility' developed amidst anarchy, representing constancy in turmoil, amongst those aristocrats and samurai warriors practicing the tea ceremony, noh drama, zen meditation, calligraphy, and poetry such as haiku, and that this permeated also to commoners influenced by the samurai, who developed 'bushido' (the way of warriors), as a sense of self-esteem and loyalty in an organisation and a community. By investigating old letters or moral treatises written by townspeople or warriors in the Edo era (1603–1867), Ikegami (2005) shows that acquiring aesthetic knowledge was a precondition for a high reputation in polite society. A consequence of this development was the country's drawing together in the private realm through social networks of poetry and the other arts, in which the outlines of the social classes were blurred (Ikegami, 2005, p. 152). Nitobe (1905, pp. 147–149) described how, in the late Edo period, the innumerable avenues of popular amusement – through the theatres, novels, and the story-teller's booths – took for their theme the stories of the samurai, depicting the peasants round the open fire in their huts listening ''with gaping mouths until the fire dies in its embers, still leaving their hearts aglow with the tale that is told'' and ''even girls are so imbued with the love of knightly deeds and virtues.''

It is generally held that the machizukuri phenomenon has developed from the citizens' environmental movements of the 1960s and 1970s. While the term machizukuri (community/neighbourhood planning) was first used in the 1950s, the first examples of ''citizen[-led] machizukuri'', where citizens were the initiators and action-takers of local regeneration, were in the Mano and Maruyama districts of Kobe City (Watanabe, 1999, 2007). Sorensen (2002, pp. 269–270) argues that the machizukuri boom began to pick up from 1980, when the City Planning Law was amended to include a District Plan System, which has a customary

requirement of obtaining a minimum of 90% agreement with the Plan by the local public. Citizen[-led] *machizukuri* spread further in the aftermath of the 1995 Kobe (Hanshin) Great Earthquake, when local communities' recovery processes necessarily progressed bottom–up. Kobayashi (2006, 2008) holds that '*shimin shudou*' (citizen-led) *machizukuri*, where citizens are proactively involved in community planning, is collaborative *machizukuri* from the viewpoint of local government. An example of collaborative *machizukuri* initiatives is the '*Machizukuri* Funds' of which there were some 200 by 2006 (*Yomiuri Shimbun*, 10 Oct, 2006). A *Machizukuri* Fund is a charitable trust funded by local residents, enterprises and government, and the Trustee (a trust bank) manages the Fund and disburses contributions to such *machizukuri* activities as townscape preservation or tourism promotion. *Machizukuri* Funds do not demand direct returns from their investment, being based upon the desire of local citizens to support community regeneration. According to the Development Bank of Japan Community Planning Team (2007), the return on investment of such 'citizen finance' is a 'social return' such as achieving 'social values' or 'public good'. The *Machizukuri Fund* of Setagaya Ward in Tokyo (population 835,000), for example, was established in 1992. It started with the ward government's initial contribution of ¥30 million (£232,000). By 2005 a total of 1288 individuals' donations had reached ¥14 million (£108,000), and those from 342 corporate bodies' ¥20 million (£155,000), together comprising 18% of the ¥188 million (£1.5 million) grand total of contributions received.[11] The Fund provides a subsidy of ¥50,000 (£386) for preliminary investigation of a project, and between ¥50,000 and ¥500,000 (£3860) annually from the second year; a '*Machizukuri Fund*' creates interest in the progress of the funded activities among community citizens who have contributed money to it, however little, and this sometimes encourages them to actively participate in *machizukuri* activities (ibid.). These local actions in many parts of the country caught the attention of the central government; the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) started to support *Machizukuri Funds* in 2005 by

allocating ¥2.5 billion (£19 million) – about ¥20 million (£155,000) per fund.

Machizukuri movements grew enormously in the period of economic stagnation which started in 1990 (Sorensen & Funck, 2007). Bank deregulation in the second half of the 1980s led to competition by banks who rushed into risky lending and property investment (Yoshitomi, 1998). During this period, local governments invested in economic development, especially resort development, setting up 'third sector'[12] public corporations with local businesses and financial institutions. It is generally held that 1990 was the year when the bubble began to burst: the stock market index began to fall from that year and land prices began to fall not long after (Hashimoto, 1995). The amount of local debt grew in the late 1980s and in the 1990s due to ambitious plans to build infrastructure and a decrease in revenue from local taxes after the bubble burst. As a result local governments depended on issuing public bonds to secure financial resources (Doi & Bessho, 2004). While the media claimed that the growth of the bond repayment requirements was a consequence of the huge debt of the Japanese public sector, Schebath (2006, p. 87) points out that there were underlying structural causes. There was a long-standing issue of a huge trade imbalance with the United States in those days. Following the unwilling acceptance of the appreciation of the yen in the 1985 Plaza Agreement, the Japanese government was under constant pressure from the U.S. to increase public spending. This culminated in the Japanese government's agreement in 1989 to lower its trade surplus with the U.S. and invest over a 10-year period ¥630 trillion in public works in order to revive the Japanese domestic market. Local governments were then encouraged to implement construction of public works, such as roads, bridges, and tourism facilities, with a much relaxed standard for the approval of the issuance of local public bonds in the early 1990s (Schebath, p. 88).

The bankruptcy of Yubari City in 2005 gave a warning not only to local and municipal government but also to the general public. Now, with the shrinking financial resources of local government following the slashing of their central government grants commencing with the Koizumi government's 2005 structural reforms, citizens have begun to realise that it is to their own advantage to be part of *machizukuri*, and that keeping their local government 'alive' is to their benefit if they want to

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[11] Of the remaining 82% of the grand total of ¥188 million, ¥100 million was provided by the ward government and Setagaya Trust *Machizukuri*, a foundation established by the merger of Setagaya Trust Association and Setagaya Ward Toshi Seibi Kōsha (ward improvement public corporation), and ¥50 million by Minkan Toshi Kaihatsu Suishin Kikō (city development promotion organisation) (http://www5.cao.go.jp/keizai2/2007/0705yutakanaooyake/honbun9.pdf).

[12] In Japan, a 'third sector' company is one which is run jointly by the state or a local public body and a private company.

receive adequate local services. There is much collective incentive for the public to take a close interest in and/or take action to ensure the community's economic sustainability. For example, there have been reports of citizens in some *machizukuri* groups keeping watch on the financial position of local government by preparing 'Financial White Papers' (Nikkei 7 Jan., 2008). This economic background has seen such social issues as the withdrawal of 1.6 million (2005)[13] young people ('*hikikomori*') from social life, increased juvenile crime and more than 30,000 suicides a year (all ages) in the last 13 years,[14] as well as an increasing number of elderly people not being provided with adequate care and a resulting increase in cases of 'solitary death', etc. Such 'social anomie' has led community citizens to stand up to improve the situation by devoting their experience and expertise. Achieving the sustainability of local communities in cities in the economic, environmental and, not least, social dimension has become a shared goal of their residents. Traditional village life has also gone through a transformation in the past several decades in Japan. Although there still exists a village community life in rural areas, where daily activities such as communal waterway management, farm road maintenance, local shrine and cemetery cleaning, and organising autumn festivals focused on the shrine are continuing, villages are making every effort to tackle depopulation and bring in new residents so they will not be left behind or lose out to other local communities (Matsuoka, 2007). For example, a village in Shimane Prefecture, the most depopulated prefecture in Japan,[15] tries to attract city dwellers to 'Come and make your life in our village': free housing is provided for them to stay for 6 months to actually experience living there (Ikemoto, 2007, p. 211). These examples and the case studies below seem to show that there is a general understanding in Japanese communities of the importance of being open to the outside world so as to draw in new resources and knowledge if they are to survive. They remind us of Bærenholdt and Aarsæther's (2002) notion of 'coping strategies'. Based on empirical locality studies in the Nordic periphery, Bærenholdt and Aarsæther (1998, p. 30) observed different localities engage in strategies which made sense in the local context in response to new situations, this necessitating an open attitude so as to understand the needs of society and meet the demands of the global market. For this they consider innovation, networking, and identity building are three critically important dimensions. In the networking dimension, they find the concept of social capital useful because social networks of people committed to each other have the potential to overcome barriers between sectors and agendas that are otherwise difficult to combine. Bærenholdt and Aarsæther (2002, p. 157) hold that keeping immigrants or outsiders out of a community means that production of potentially new social capital is prevented; ''defining all local inhabitants as citizens and human resources facilitates the possibility of an inclusive territorial strategy'' where networking and the formation of multiple identities can produce social capital. The notion of coping strategies and the importance of social capital in overcoming barriers thus seem relevant to what is happening in Japanese communities as *machizukuri* action. A brief review of the concept of social capital will be provided in Chapter 2 followed by an exploration of how it manifested in the Japanese research. First though, some important contextual features of the Japanese case will be outlined.

1.2. The role of municipalities in Japan

The total number of municipalities in Japan was 1726 in 2010 with an average population of about 135,000, and of these, one-third of the 777 cities had less than 50,000 people (Table 1.1).

Under 2004 legislation concerning the Merger of Municipalities, city status is available to localities with a population of 30,000 when this results from the merger of towns and/or villages. The threshold was previously 50,000. This change was made in order to facilitate such mergers and thus reduce administrative costs. For municipal government, the main driving force for this wave of mergers was the promise of extra financial support from the central government: municipalities were allowed to issue special local bonds for 10 years to cover up to 95% of the cost of building new administrative centres, with central government financing 70% of the principal and interest of these bonds. For central government the principal motive was, as Kohara (2007) itemises, creation of entities large enough to provide garbage disposal, firefighting and nursing care, which is rapidly increasing due to an ageing population, while Rausch (2006, p. 152) expresses it as more efficient and flexible administrative management of local municipalities together with fiscal improvements in the tax system and subsidy provision.

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[13] http://www.khj-h.com/.

[14] Cabinet Office 2011 Jisatsu Taisaku Hakusho (White paper on countermeasures against suicide). According to WHO's World Health Statistics Annual 1999, suicide rates (per 100,000) by country are: Russia 39.4, Japan 25.0, France 17.5, Sweden 13.8, Germany 13.6, Korea 13.6, Australia 13.1, Canada 11.7, U.S.A. 10.7, U.K. 7.5, and Italy 7.1.

[15] http://www.kaso-net.or.jp/kaso-map.htm.

Table 1.1
Population sizes of Japanese municipalities in 2010.

Population	214≤	1500≤	5000≤	10,000≤	50,000≤	150,000≤	500,000≤	1 million≤	2 million or more
777 cities			1	242	384	122	16	8	4
767 towns		99	196	470	2				
182 villages	38	90	40	13	1				

Reference for data: 2010 census.
'5000≤' in the top row of the table indicates a population of between 5000 and 9999.

Many municipalities have gained city status under this legislation. As a result the number of municipalities decreased from 3232 in 1999 to 1820 in 2006.[16]

Local legislation takes the form of ordinances. Local government is allowed to establish ordinances though they must be consistent with national laws. However, this right only became meaningful when the Omnibus Decentralisation Law was enacted in 1999, in which top–down delegation (70% of prefectural work and 30–40% of municipal work) from the central government was largely eliminated. At the same time municipal ordinances were allowed to be established independently of prefectural ordinances. These ordinances are not always backed by national laws: 'independent ordinances', which cover areas that are not regulated by law or set a stricter standard than national law, obtain legal status only with the consent of the Minister of Internal Affairs and Communications, while 'delegation ordinances', the making of which is delegated to municipalities within a framework of national legislation such as the Building Standard Law. Using this new opportunity of expanded local autonomy under the Omnibus Decentralisation Law, more than 500 local governments (15% of the total) had established independent ordinances up to 2004 (Nishimura, 2005, p. 7). An increasing number of local governments have adopted their own sets of basic ordinances for municipal governance. These are known as Basic Municipal Ordinances, with the aim of clarifying the process or specifics of participation in accordance with local circumstances, or Basic Environmental Ordinances, which override other types of municipal environmental regulation.[17] 'Basic Environmental Ordinances' are regarded as a framework at local government level for all environmental policy. They oblige the head of the local government agency to make a basic environmental plan, and many were made prior to the central government's legislation, enacted as the Basic Environmental Law in 1993 (Utsunomiya & Hase, 2000).

Urban planning in Japan has generally been considered a highly centralised top–down process (Calder, 1988; Sorensen, 2002; Ishida, 2006). Though limited, the first steps towards decentralisation were taken with the enactment of the 1968 'New City Planning Act', which made it possible for progressive municipalities to develop more distinctive planning regimes. In fact some local governments led the central government in the development of environmental policy in the face of grave pollution problems, producing innovative environmental policies and pollution control agreements, as in Yokohama City's voluntary agreements with companies in the 1970s (Utsunomiya, 1995). The progressive administrators in these local governments were far more committed to citizens' participation initiatives (Evans, N., 2002). However, before the Omnibus Decentralisation Law came into force in 2000, local governments had no legal backing for opposing any development projects in existing built-up areas if they met the existing zoning and building standards laws. Sudden changes in streetscapes due to the construction of new tall buildings could not be prevented. By the 1990s this had become one of the reasons for the upsurge in *machizukuri* neighbourhood communities who wanted to preserve the urban fabric and streetscape of their neighbourhoods. Kadomatsu (2006) argues this was due to the 'principle of minimum intervention' that underpins Japanese land use policy – which assumes freedom to construct and develop as being a basic right attached to private property. The only legal means available for preventing such undesirable construction plans was (and still is) through the District Plan System, established by the 1980 revision of the City Planning Law. This enables the overriding of land use zoning regulations where a minimum of 90% of the local public agrees.[18] In regard to the current state of capacity of local municipalities, it is generally

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[16] Ministry of Internal Affairs and Communications: http://www.soumu.go.jp/main_content/000021700.pdf.
[17] Japan for Sustainability: http://www.japanfs.org/en_/public/gov_08.html.

[18] http://www.mlit.go.jp/jutakukentiku/house/seido/kisei/chikukeikaku.html.

considered that decentralisation has not yet progressed very far; there has been progress under the Decentralisation Law in increasing local administrative, but not financial, control over a number of functions (Barrett, 2000, p. 34; Kobayashi, 1999; Hein & Pelletier, 2006; August 2011 Japan Association of Corporate Executives). Nevertheless, the central government's Regional Sovereignty Strategy Outline of June 2010 established the principles of subsidiarity and participation, and the reversal of the trend towards decentralisation seems unlikely – particularly due to the increasing debate in western Japan (Kansai) regarding the need to introduce a ''doshu-sei'' regional system under which Japan would be reorganised into several regional blocs, to help create vigour in ailing rural areas. In the following section, I will briefly discuss how the concept of sustainable development is understood and approached in Japan and what are considered as key concerns to attain it.

1.3. Key sustainability concerns in Japan

Although there is much confusion about exactly what sustainable development means due to the broadness of its definition (Devuyst, 2001, p. 7), Ueta (2003, p. 71) argues that meeting the challenges of achieving inter- and intra-generational equity and observing ecological limits to growth requires, not just economic efficiency but also attaining 'social efficiency', through achieving human and social development considering future generations as well. He also suggests that in order to meet either challenge it is necessary to evaluate the economic output produced by the society in terms of contribution made to quality of life and the extent to which the potential capability of people is realised, as in the 'capability approach' conceptualised by Sen (1985). Morotomi (2003, p. 108) emphasises the importance of social capital to achieve sustainable development. He argues that whether policies, either of the central government or local government, work or not depends upon the level of accumulation of social capital, on the basis of which institutional capacity is formed. As can be seen from these views, an important variable in enhancing sustainable development in Japan is increasingly considered to be developing citizen participation or a citizen-initiated approach.

At long last, Japan seems to be shifting its policy orientation from ''construction-state'' development, which caused not only a huge amount of environmental destruction but also the decline of local communities and industries (Ui, 1992; Kerr, 2001; Sorensen, 2010), to sustainable development. The Democratic Party of Japan, which in 2009 replaced the Liberal Democratic Party in government, began to implement a new policy initiative called 'Midori no Bunken Kaikaku' (green decentralisation reform). Shifting from a corporation-luring type of development, the reform aims to enhance 'internally driven development' (Miyamoto, 1992) to arouse the latent dynamism of communities by fully utilising local resources and increasing their capacity[19] through developing self-sufficiency in food, energy and care.[20] The ''Feed-in Tariff'' system in force from July 2012 is part of the reform, argues Shiikawa, the Director General of the Finance Bureau of the Ministry of Internal Affairs and Communications (Shiikawa, 2011, p. 3). Many of the various local innovative initiatives introduced in Shiikawa (ibid.) started bottom–up or in collaboration with local government as in Higashiomi City (population 115,000) of Shiga Prefecture, showing how local action can happen.

The most acute threats to sustainability are widely held to be depopulation and ageing populations because keeping communities function requires at least a minimum number of people capable of running them, with shops to sell groceries, for example, and people who can take care of the elderly in emergency. The migration of people from villages to cities started during the rapid economic growth era of the 1960s, and in the 1970s even household heads began to work in big cities due to stagnation in agriculture. These are socio-economic issues, but are also widely regarded as the cause of local environmental deterioration; depopulated villages lack people able to cultivate farmland and to maintain nearby secondary forests, and this leads to loss of biodiversity (Takeuchi & Brown, 2003; UNU-IAS, 2010) and abandoned forests, causing soil erosion and flooding in the river valley's lower reaches. In order to restore abandoned secondary forests on the lower hills and mountain slopes, known as satoyama (homeland mountains), many city dwellers began to join the satoyama conservation movement during the 1980s (Takeuchi, 2001). Collaboration between local authorities and community people to attract potential settlers from other parts of the country is an acute need, because depopulation has reached a critical level in many places: in 2010 more than 40% of all municipalities (718 of 1719) were publicly declared 'depopulated areas'. These

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[19] http://haraguti.com/diary/dcontents304.html; Mr Haraguchi is the Minister of Internal Affairs and Communications.

[20] Katsuto Uchihashi, economic commentator, is promoting the idea of enhancing ''F(food) E(energy) C(care) Self-Sufficiency Area'' and the idea is adopted in many places: http://www.nhk.or.jp/gendai/kiroku/detail02_3108_1.html.
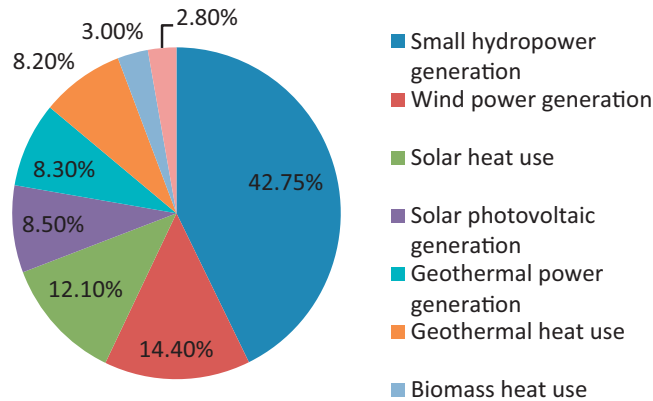
Fig. 1.1. Renewable energy use in Japan in 2010.
Source: Kurasaka & ISEP (2011). Table 1, Chapter 5, Sustainable Zone 2011.

require special fiscal measures by the Ministry of Internal Affairs and Communications (MIC) under a 1980 Law. Depopulation thus became a serious issue in mountain villages throughout Japan (Tsukiyama, 2007, p. 54).

Another key concern following the nuclear accident at Fukushima is further reductions in energy and resource use. Economising on resource use has been widely practiced by municipalities since the ''3R'' policy (reduce, reuse, recycle) of the Ministry of Economy, Trade and Industry (METI) introduced in 2002 – often practiced under the slogan, 'Recycling-oriented Society (*Junkangata Shaikai*).' This resembles what Ekins (1992, pp. 50–51) describes as 'circular natural economy' or 'nature's no-waste economy' – in that resources and wastes are connected so as to ''refrain from producing wastes that cannot become resources''. The policy is in tune with a traditional Japanese virtue, 'mottainai', which places high value on economising on resource use along with a respect for nature, and which may help in expanding the use of renewables prompted by the passage of a new renewable energy law on 26 August 2011. Currently, renewable energy accounts for only 3.2% (2010) of total energy use (Japan for Sustainability),[21] of which small-scale hydropower generation accounts for almost half (42.75%), with wind power generation, solar heat use, solar PV generation, geothermal power generation, and geothermal heat use all still at relatively low levels (Kurasaka & ISEP, 2011, see Fig. 1.1). The introduction of a feed-in tariff system for renewable energy may prompt various

innovative local activities to be prepared for any unexpected natural disasters.

2. The conceptual and methodological basis of the research

2.1. Social capital as a conceptual framework

As the discussion of *machizukuri* makes clear, the concept of social capital is highly relevant to researching community action for sustainability in Japan. Putnam (2000, p. 19) argues that the concept ''refers to connections among individuals [i.e.] social networks and the norms of reciprocity and trustworthiness that arise from them''. Coleman (1988, p. 98), the concept's early proponent, defines it as being inclusive of its function as ''capital created by individuals in the structure of relations between and among persons to find better ways of making possible the achievement of certain ends that in its absence would not be possible'', while Ostrom (1995, p. 131) supports Coleman's perspective, emphasising the process of interaction between individuals who devote time to constructing patterns of relationships among people. Coleman (1988, p. 102) identifies three forms that social capital takes in the structure of relations between and among actors: obligations and expectations; the information-flow capability of the social structure; and norms accompanied by sanctions. Ostrom (1999, p. 181) sees social capital as being embedded in common understanding rather than in obvious structures: ''the shared knowledge, understandings, norms, rules and expectations about patterns of interactions that groups of individuals bring to a recurrent activity''. Ostrom (1999, p. 188) further concludes that social capital is not easy to see and measure; however, the self-organising processes

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[21] http://www.japanfs.org/en/pages/030010.html; the figures are based on NEDO data collected by JWPA, Thermal and Nuclear Power Engineering Society (2008), and Japan Electric Power Civil Engineering Association.

that social capital facilitates generate outcomes that are visible, tangible, and measurable, suggesting that the accumulation of social capital among people can be recognised by seeing their 'achievement of some ends'. In examining how social capital has worked in the autonomous management of communities, Ostrom (1990, p. 30) uses examples of a natural resource system that is "sufficiently large to make it costly to exclude potential beneficiaries from obtaining benefits from its use" referring to it as a 'common-pool resource' (CPR). She argues that a community of citizens who have shared CPRs for a substantial time, developing shared norms, rules, and patterns of reciprocity by learning whom to trust, what follows from breaching the rules, and how to organise themselves to gain benefits, possess social capital, and that with this social capital, they can build institutional arrangements for resolving CPR dilemmas, that is, collective action problems in managing natural resources. The key to success here is building norms or rules collectively among participants. This community natural resource management model sounds ideal for building a sustainable community; community decision-making is performed giving consideration to environmental, economic and social dimensions under the given conditions, and is conducted in a participatory manner. However, the more mobile lifestyles of today's society militate against achieving ideal conditions for CPR management – which, according to Coleman (1988, p. 105), requires some degree of 'closure of social networks' for effective norms to arise.

More recently many writers on the subject are focusing on a more open style of social capital network. In contrast with the closed type that has been defined as "networks that are primarily concerned with building strong links within a community or group", the open type is thought of as being "concerned to build links between communities or groups of actors" (Rydin & Holman, 2004). While the former type, which is "bonding capital", is usually associated with networking within a bounded area and with strong identification with locality, the latter type, which is "bridging capital", can often be used to mean connections beyond local boundaries and with people or organisations that are dissimilar. A particular difference between the two types of social capital pointed out by these writers is the role of norms: common norms are central to binding actors together with bonding capital – while in bridging capital they are given less emphasis than the network of linkages. As a result bridging links could be so loose as to provide little contribution to collective action (Falleth, 2006; Rydin & Holman, 2004).

In Japanese local communities, networks connected with bonding social capital are typically community-based organisations (such as neighbourhood associations and elderly people's groups), focused on the local environment or residents' welfare needs. Networks connected by bridging capital are typically non-profit organisations (NPOs) that have theme-based aims, such as environmental groups, and these can cross over neighbourhood boundaries. It is often noted in Japan that these two different types of social capital networks do not generally join forces, even when both strive for similar goals, such as environmental sustainability, merely acting as a network of individuals or groups within their own territory or field with accumulated resources. One type has abundant human capital, while the other has useful expertise for dealing with more challenging contemporary issues. This complementarity makes the creation of linkages able to connect the two an aspiration on the road to sustainable development at the local level.

Rydin and Holman (2004, p. 120) argue that the current distinction between bonding and bridging may be insufficient to capture the different kinds of linkages that are possible. Therefore they propose adding the concept of 'bracing social capital' as a kind of social capital that is primarily concerned with strengthening links across and between scales and sectors, but which only operates within a limited set of actors, providing a kind of social scaffolding. The notion of bracing social capital is similar to 'linking social capital' as proposed by Woolcock (2001), in that they both acknowledge the vertical dimension within social capital. Woolcock (1998) treats levels and scales as an important dimension of social capital and acknowledges the different kinds of work it makes possible at these different levels/scales. This enhances the value of the concept (Rydin & Holman, 2004, p. 121), and he explains that "linking social capital pertains to connections with people in power, whether they are in politically or financially influential positions" (Woolcock & Sweetser, 2002, p. 26). The difference between the two notions is that bracing social capital does not exclusively pertain to connections with people in power or in formal institutions; it includes connections of people who have ties with various groups, whether formal or informal, across sectors, across government levels or localities. The concept is especially useful in describing the types of networks that have spread widely within a short period of time, such as 'machi-no-eki' ("community station") – a trend which started in 1998 and had spread to 39 of Japan's 47 prefectures within 10 years with more than 1500

registered members (shops, citizens' groups, museums, hospitals, schools, city halls, etc.). Members are asked to display a membership sign, and provide a free rest room and local information to visitors. This has created local networks that have encouraged community revitalisation. Koike (2006) noted that it played a vital role in the distribution of relief supplies sent from all over Japan at the time of the 2004 Niigata Earthquake.

In proposing bracing social capital as a third type of social capital, Rydin and Holman considered five dimensions that act to strengthen the analytical value of the concept: the boundaries involved; the role of place and territory; the scale at which social capital operates; the nature of the linkages present; and the kind of actors involved and the sectors where they operate. Bracing social capital ''encourages common values and norms among those linked together''. The function of bracing social capital is that it can expedite the process of mobilising collective action by various groups for goal achievement, which in its absence would not happen or would take much longer. If a bracing social capital network exists or is encouraged to build naturally, the norms of social capital networks can operate to mobilise collective action not just as they do in a closed community where norms build in the way suggested by Coleman (1988), but even in a more open community where people often move in and out for employment reasons, as is common in contemporary society. A bracing social capital network have come into being as a result of individuals in it needing each other to 'get things done' in the past – whether citizen-led initiatives or collective action in collaboration with local governments. More examples of bracing social capital networks will be given in the case studies below.

2.2. Methodology

While Agenda 21 covers an enormous number of environmental and developmental issues (Carter, 2001,

p. 196), I frame sustainable development as 'development that meets economic, environmental and social needs of people of present and future generation, which is realised by citizens' active involvement in the processes of achieving it.' Based on the thinking discussed in the previous section that social capital can support citizen participation in achieving the goals of local sustainability, the following hypothesis is proposed:

Where community planning for sustainability involves higher levels of citizen participation, the resulting progress towards sustainability is greater.

The premise here is that the extent of citizen participation can be considered as an important indicator in identifying the availability of social capital. In order to examine whether active citizen participation in community planning (*machizukuri*) does in fact make a difference in progress towards sustainability, qualitative and quantitative investigation was conducted in three cities: Takashima, Yasu and Kyoto. Interviews, surveys and document analysis were used for qualitative investigation, and regression analysis was used to examine the relationship between the level of social capital (SC) accumulation and the level of sustainability achievement (SD). The results of the quantitative analyses of the three cities are provided in Chapter 6.

The premised relationship between the two variables is reproduced below in Fig. 1.2 SC–SD Phase. In this figure, social capital (SC) is defined as the social capital accumulation achieved through citizen participation, represented by the horizontal axis, while the vertical axis represents sustainable development (SD). As citizen participation is an important element of sustainable development, any overlap in the definition of SC and SD needs to be avoided. For this reason it is premised here that SD in this diagram and the subsequent analysis represents 'sustainable development excluding the element of citizen participation and social capital accumulation', and that it focuses on the
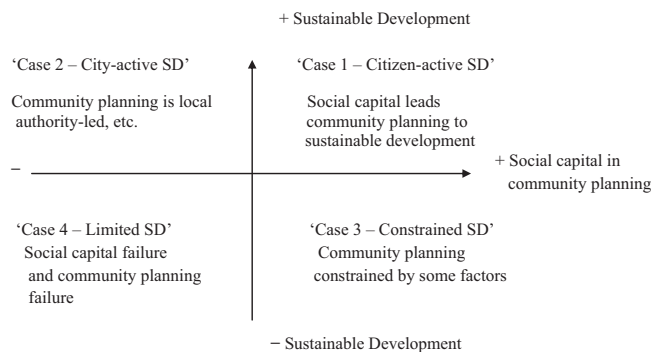

Fig. 1.2. SC–SD Phase.

Table 1.2A
Criteria for evaluating the achievement of sustainable development.

Criteria for achieving sustainability	Points assigned for each project	Categories	Max. obtainable points for a project	Total points of projects	Maximum obtainable points for a city	A city's score for a criterion
Criterion 1: commitment to SD	City obtains 0.5 points if it has:	A vision statement, or an action plan			1	Score 1 = (0.5 or 0) + (0.5 or 0)
Criterion 2: level of balance of social, economic, and environmental projects	Calculate the percentage of projects for economic, social and environmental sustainability	Pe: % of projects for economic sustainability, Ps: % of projects for social sustainability, Pv: % of projects for environmental sustainability		$L = MIN [Pe,Ps,Pv]$	1	Score 2 = 0.4 points; if $15\% \leq L < 20\%$; Score 2 = 0.6 points; if $20 \leq L < 25\%$; Score 2 = 0.8 points; if $25 \leq L < 30\%$; Score 2 = 1 point; if $30\% \leq L$;
Criterion 3: concern for ecological and natural resource limits	Project obtains 2 points if it has:	Ecological limits/sustainable management of resources	4 points	T: Sum of all projects' points	MAX = 4× (no. of projects)	Score 3 = (T/MAX)
Criterion 4: achievement in sustainability	Perceived outcomes: small, 2 points medium, 3 points large, 4 points	'Project SD Quality' = SD Quality 'Project SD Quantity' = SD Quantity	4 points	T: Sum of all projects' points	MAX = 4× (No. of Projects)	Score 4: SD Quality = (T/MAX); SD Quantity = (T/pop) × (10^2 for city)
				Population = pop		

policy of cities, the degree of integration of their approach, the extent to which SD concerns are incorporated in their project design, and the outcomes of their policy measures in economic, social and environmental sustainability terms. The cities in the case studies are examined with the relationship of these axes as the base framework, and will be classified into the four quadrants of the SC–SD Phase (Fig. 1.2), based upon the results of the qualitative and quantitative investigation of their community planning. The four quadrants are: citizen-active SD (the case where social capital is contributing to sustainability), city-active SD (the case where community planning is local authority-led), constrained SD (the case where community planning is constrained by one or more factors), and limited SD (the case of social capital failure and community planning failure).

In order to assess community planning in the SC–SD Phase I devised an evaluation method in which the levels of SC and SD progress were measured on the basis of 6 criteria extracted from the LA 21 principles which were used in three major research projects (ICLEI,[22] DISCUS,[23] and LASALA[24]) conducted in the past, along with two additional criteria created to fulfil the aims of the present research as shown in Tables 1.2A and 1.2B. Of these eight criteria, four were used to measure SC accumulation and four to measure SD achievement. In both types of criteria, attempts were made to measure several aspects of SD and SC, both in terms of process and achievement. The SD criteria (Cr. 1–4) evaluate the SD awareness of cities' policy makers (Cr. 1), the degree of balance of social, economic, and environmental projects as classified by the cities (Cr. 2), the extent to which SD concerns were incorporated into their project designs (Cr. 3), and finally the level of SD goal achievement of their projects (Cr. 4). Regarding the evaluation of the project impact or outcomes, the

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[22] ICLEI, the International Council for Local Environmental Institutes, established in 1991, is an association of local governments dedicated to the prevention and solution of local, regional and global environmental problems through local action (Evans & Theobald, 2003).

[23] DISCUS, a survey conducted in 20004 in Europe, stands for Developing Institutional and Social Capacities for Urban Sustainability (Evans et al., 2005).

[24] LASALA stands for Local Authorities' Self-Assessment of Local Agenda. The research project was funded by the European Union, under the Fifth Framework 'City of Tomorrow and Cultural Heritage' programme. It was a 20-month project (conducted between March 2000 and October 2001) with six partners (including ICLEI as the coordinator) covering the EU and candidate countries (Evans & Theobald, 2003).

Table 1.2B
Criteria for evaluating participation/social capital accumulation.

Criteria for citizen participation in machizukuri	Points assigned for each project	Categories	Max. obtainable points for a project	Total points of projects	Maximum obtainable points for a city	A city's score for a criterion
Criterion 5: level of participation in project	Project obtains 1 point if citizens participate in one of:	Planning; decision-making implementing; monitoring	4 points	T: Sum of all projects' points	MAX = 4× (No. of Projects)	Score 5 = (T/MAX)
Criterion 6: level of stakeholder involvement/partnerships	Project obtains 1 point if it involves one of:	Business, NGOs/NPOs/experts; citizens' groups; local government	4 points	T: Sum of all projects' points	MAX = 4× (No. of Projects)	Score 6 = (T/MAX)
Criterion 7: level of continuity	Project obtains the following points, if it continues:	$0 < 2$ years; 1 point; $2 \leq$ 5 years; 2 points; $5 \leq$ 10 years; 3 points; 10 years$\leq$; 4 points	4 points	T: Sum of all projects' points	MAX = 4× (No. of Projects)	Score 4 = (T/MAX)
Criterion 8: achievement in collaborative institutional framework creation	Ordinances or Plans obtain 1 point if citizens participate in one of: planning; implementing; decision-making; monitoring	Framework – Creation Quality; Framework – Creation Quantity	4 points	T: Sum of points of all relevant ordinances and plans	MAX = 4× (No. of ordinances/plans)	Score 8: F-Creation Quality = (T/M); F-Creation Quantity = (T/pop) × (10^3 for city)

Source: Kusakabe (2011).

evaluations formally provided by local government are used as the evaluation base. All three case study cities in the present research have a published policy of working to achieve sustainable city status, and have an evaluation system to assess and publish this annually that is either based on their own evaluation of goal attainment or is based on survey results. Using the respective local governments' evaluations, I determined the final project scores for SD goal achievement by examining the level of integration of the social, economic, and environmental dimensions. Criterion 4 produces two SD achievement indicators – one qualitative (project points divided by the maximum points), the other quantitative (project points divided by the population).

The SC criteria attempted to capture the level of social capital accumulation achieved through citizens' involvement in the development of city projects: the depth and breadth of citizen participation (Cr. 5 and Cr. 6); the continuity of projects (Cr. 7); and the existence of formal frameworks established in collaboration with citizens, which are considered as the outcomes of citizen participation (Cr. 8). Criterion 8, the achievement in terms of collaborative institutional framework creation, refers to whether a city has created such frameworks as environmental ordinances, district plans, etc as a result of citizen participation that involves citizens over an extended period of time (a year or more), and this criterion also provides a qualitative as well as a quantitative indicator: the 'Framework-Creation Quality Indicator' and the 'Framework-Creation Quantity Indicator'. Criterion 8 was created based upon the observation made by Ostrom (1999: 181) that "social capital is not easy to see and measure, however, the self-organising processes that social capital facilitates generate outcomes that are visible, tangible, and measureable."

These criteria produce a total of 10 indicators for evaluating the types of community planning (machizukuri) that the case study cities are achieving within the framework of the SC–SD Phase. The scoring system based on these criteria is shown in Tables 1.2A and 1.2B. The next three chapters present the results of the three city case studies of machizukuri (community planning) conducted from 2007 to 2009. Following these case studies, Chapter 6 examines quantitatively the effect of social capital on the cities' sustainability performance.

3. Case study of Takashima City

3.1. Geographical and economic background

Takashima City is located on the west side of Lake Biwa in Shiga Prefecture (Fig. 3.1). Although there has

Fig. 3.1. Location of Takashima City.
Source: http://www.city.takashima.shiga.jp/english/Location.htm.

Fig. 3.2. Classification of land use.

been an area called Takashima Gun (sub-prefecture) since the 8th century, the city was formed by merger in 2005 from five small *machi* (towns) and one *mura* (village). Takashima, connecting the northern region facing the Sea of Japan to the old capital area (Kyoto and Nara), has long flourished as an important traffic point providing water transportation across Lake Biwa. Covering 693 km^2, it is the largest subdivision of the prefecture, and is typical of Japan's rural landscape with rice paddies (25.4%) surrounded by forested hills and mountains (57.1%) (Fig. 3.2).

With about 53,000 people, Takashima's largest share of employment in 2005 was in tertiary industry (55.2%), followed by secondary industry (33.5%) and primary industry (7.7%), which are both larger than the national average (Table 3.1). Accordingly, the largest portion of the Gross City Product (GCP) of ¥136 billion (about £1

billion) in 2008 was from real estate (28.2%), followed by manufacturing (24.7%) and service industry (21.0%), with agriculture providing only 2.3% (Takashima City Statistics, 2008).

3.2. Social and governance conditions in Takashima

A problem in Takashima is the ageing of its population, with 25% aged 65 or over (Table 3.2). In addition to environmental destruction caused by deserted *satoyama* hillsides, an ageing population tends to cause decline of local industry and in turn a decrease in tax revenue, but an increase in medical facilities adding to the burden on the local government (CGKK, 2009). Retaining the younger generation or inviting people to settle in the city from outside is a crucial issue requiring action. The city provides tax incentives for newcomer residents such as halving the fixed property tax for 5 years when buying a house in the city.

The lower percentage of the younger generation than in the rest of Shiga has tended to result in the closed nature of the society being maintained, reducing the opportunity for obtaining not only new knowledge and ideas but human resources needed to keep a community running: people who provide transportation, fire-fighting, emergency medical services, etc. It was suggested by an interviewee in a neighbouring city that Takashima has a more traditional type of local governance than other cities in Shiga Prefecture. Although the merger happened in 2005 during the third municipal merger

Table 3.1
Employment by industry in Takashima, Shiga, and Japan.

	Primary industry	Secondary industry	Tertiary industry	Public service	Total
Takashima City	7.7%	33.5%	55.2%	3.6%	100%
Shiga Prefecture	3.7%	34.9%	57.9%	3.5%	100%
Japan	4.9%	26.6%	65.0%	3.5%	100%

Source: Census 2005.
http://www.mlit.go.jp/common/000025662.pdf; http://www.e-stat.go.jp/SG1/estat/List.do?bid=000001005168&cycode=0.

Table 3.2
Population share by age group in Takashima City in comparison with Shiga Prefecture and Japan.

Age	∼14	15 ∼ 64	65∼	Total
Takashima City	14%	61%	25%	100%
Shiga Prefecture	15.2%	65.7%	19.1%	100%
Japan	13.7%	65.3%	21%	100%

Source: Census 2005.

boom, the five towns and the village already formed a social and economic sphere. Hirohara (2008b) argues that the relationships between local government and community in Takashima have been those of 'corporatism'. Administrative services were provided through community and business association channels, and needs and requests were collected through the same channels. The 'corporatist' system had worked in a stable manner maintaining a conservative local governance until the communities began to suffer from a diminishing population. Currently there are 196 neighbourhood associations (NAs) in Takashima City. Eighty percent of them are four-century-old entities, which used to function as the lowest level of governing unit complementing the local administration (Hirohara, 2008a). However, these communities suffering from a falling population cannot afford to stay closed and this 'sense of crisis' in the communities usually becomes a reason for starting *machizukuri* (community/neighbourhood planning) activities. The continuance of many NAs over decades as shown in Table 3.3 makes one realise the conservative nature of Takashima.

The NAs which have remained closed typically are bonding social capital networks that ''bring closer together people who already know each other'' (Gittell & Vidal, 1998, p. 15). Concern about the limited number of new residents coming into Takashima is expressed by an NPO representative in the minutes of an examination committee of the 'Whole Lake-Country Eco-Museum', a Shiga project of 2005 to consider collaboratively a 21st century lifestyle in which ties between nature and people are valued. The NPO representative is expressing her impression:

It is not easy to take action in Takashima, as one worries about being thought presumptuous. The way people feel in Takashima is different from other cities in the prefecture. Takashima City residents are mostly people who have lived there for generations. The residents who are active tend to come from outside. I wonder when Takashima can change and if there is any likelihood that it will change (26 Nov. 2004, minutes of the examination committee of the 'Whole Lake-Country Eco-Museum').

What the NPO representative means by 'change' is 'not remaining conservative but opening up to bring in new thinking and try new ways in community management.' Another member of the committee, Dr. Kada, a former university professor who is now the Governor of Shiga Prefecture, responded to her comment:

The western side of Lake Biwa has had little influence from 'outside' and has had a quintessentially Shiga history. There are two separate activity layers here. People from outside are active doing various activities in association-type networks and original residents are busy doing community activities such as local preservation activities, and community festivals. One would hardly notice from the outside, yet communities are continuing their work soberly and steadily. And such a double layer structure is indeed keeping local communities nice and neat. If we fail to notice this aspect, we don't understand the good things about Shiga and its way.

The two people's remarks point out different aspects of Shiga citizens' activities for sustainability. The first NPO representative, who is from Takashima, has lived feeling that there are soft sanctions against 'unusual' actions taken by community members and noted a tendency for those who come from outside the city to be more active. Governor Kada who is originally from outside the prefecture notes characteristics of Shiga where community people's common norms have successfully maintained the natural environment and acknowledges the existence of bridging networks which connect beyond bonding networks.

Table 3.3
NAs in Takashima in terms of their continuance and the average number of households.

Town/village in Takashima City	Makino Town	Imatsu Town	Kutsuki Village	Adogawa Town	Takashima Town	Shin-asahi Town
Nearly 400-year-old NAs/total	24/28	30/47	22/22	28/38	26/35	22/26
NA's average no. of households	82	105	40	129	64	154

Source: Hirohara, 2008a.
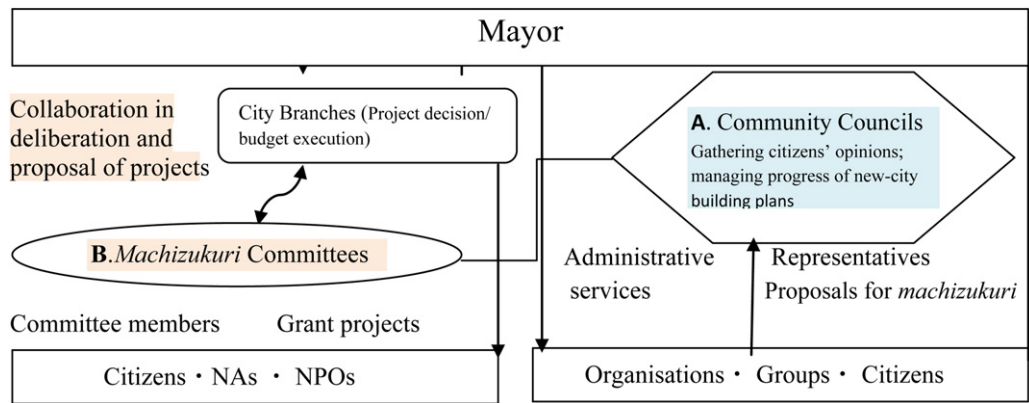
Fig. 3.3. Takashima's community autonomous organizations: A. Community Councils and B. *Machizukuri* Committees, established in 2005. Source: www.pref.shiga.jp/shichoson/gappei/jyoukyo/files/takashima.pdf.

A new context was created in Takashima by the 2005 merger, which is regarded as a 'merger on an equal footing' of six municipalities in contrast to 'mergers of the largest absorbing the smaller' which are very common. An equal-footing merger may suggest some potential to allow each locality's individuality and tradition to be maintained if networking and partnership-forming proceed successfully (Hirohara, 2008b). The question is how it could realise its potential.

3.3. Governance structure created at the 2005 municipal merger

At the time of the 2005 merger, the new city established two types of community organisations in order to restructure local governance. One was 10-year temporary 'Community Councils', 15–20-member mayoral consultative bodies composed of individuals mainly from industry associations, business associations, and citizens' groups: these councils were expected to gather opinions and help the mayor manage the problems arising from the merger, and produce and monitor the progress of a new city plan, until 2014 (A in Fig. 3.3). The other was Takashima-version community autonomous organisations called '*Machizukuri* Committees' (B in Fig. 3.3), composed of 10 local residents who were members of NAs and NPOs, with the role of managing local *machizukuri* (community planning) with a grant of ¥8 million (£62,000) per committee plus ¥1000 (£7.7) per resident.[25] Takashima City hoped that the two types of organizations liaising with each other would help restructure community autonomous

organisations, which is urgently needed in the new city to overcome the problems of an ageing and diminishing population.

Three years after the establishment of the new system, however, Hirohara (2008a, p. 4) observed a similar state of different localities under the new system. No exchanges were taking place between the Community Councils and the *Machizukuri* Committees, or between different *Machizukuri* (community planning) Committees. To make matters worse, there was also reluctance on the original residents' side to become involved in *Machizukuri* Committees, which would like to attract various types of people to join. This state of affairs is far from what was initially intended. Hirohara (2008b) argues that the reason for this lack of progress is not simply the long history of community residents' dependency on the local authority. The shortage of younger people in Takashima City makes it difficult to find people to undertake the heavy work involved in the transition. Secondly, the merger did not merge all the town/village organisations of the six localities. Only chambers of commerce, forestry unions and young men's associations merged but not agricultural cooperatives, sightseeing associations and others. Thirdly, not enough discretion was given to *Machizukuri* Committees; 70–80% of the *machizukuri* grant is allocated through the traditional channel of NAs and their traditionally conservative nature reduces the chance of innovative ways of using the grant being adopted. Hirohara's observation shows that the two types of bridging networks, *Machizukuri* Committees and Community Councils, the city government created to achieve a smooth transition after the merger are not functioning as intended. The number of incorporated NPOs, which were created by citizens on their own, has

reached double figures only recently, and they are not yet a strong enough force to generate new cross-boundary activities.

In order to deal with all these issues in an era of decentralisation, Takashima City embarked on establishing the 'Citizen Collaboration Centre' (*Shimin Kyodou Koryuu Sentaa*) in 2009. The idea was developed in the 'collaborative project study' conducted by Makino *Machizukuri* Network Centre (a citizens' group), LORC (a university research centre of Ryukoku University),[26] and the City. Takashima City has started building a network of partnerships with volunteer groups/NPOs, which currently links 100 groups, in order to give a stimulus to the 'community council' and '*machizukuri* committee' approach (Local Autonomy and Collaboration Division, Takashima City). Hirohara, a *machizukuri* expert, takes part in planning the structure and mode of operation of the tri-party team of local government, civil organisations, and the experts of the 'Citizen Collaboration Centre'. The principles the team prepared for the Centre's operation are:

1. Different organisational principles and methods of business groups, community organisations and civil organisations should be respected. Themes which can be shared among them should be studied by the 'Citizen Collaboration Centre'.
2. The 'Citizen Collaboration Centre' should function as the support centre for '*Machizukuri* Committees' by empowering human resources and studying methods of securing potential 'key persons' who will coordinate various networks existing in different communities in Takashima City.
3. The 'Citizen Collaboration Centre' should try various measures to rebuild NAs through partnerships of new and old citizens in order to reduce the risk of communities becoming 'marginal communities', which have difficulty in functioning properly (Hirohara, 2008a, p. 5–7).

What Takashima citizens and the city think important now to complete the merger process is 'securing potential key persons', who could link various networks. So far, in Takashima's case creating bridging networks top–down as opposed to waiting for them to emerge naturally has not proceeded as hoped. Securing or fostering key persons is similarly difficult. The question remains how network building can emerge by itself.

As part of the efforts to find an answer to this question, a round table was held on 1 February 2008 with nine NPOs, one Takashima citizens' group (Makino *Machizukuri* Network Centre), seven Takashima City staff members and one Shiga Prefecture staff member from the Citizens Activities Division.[27] Opinions were expressed regarding network building:

> Since the merger the numbers of machizukuri projects and of organisations have grown sixfold so far and remain unconnected and not coordinated. The same thing may happen with the network building of NPOs; network building only among NPOs may not develop Takashima's machizukuri. Their network should connect with other community networks. So the idea was we need something that connects and coordinates these different forces. (A city staff member)

> My image of a Machizukuri Committee is an implementer or a task force. If we can become that kind of action group, we can say we are an autonomous organisation. To have a stronger base, building networks is indispensable and networking with businesses is also important. (An NPO member)

> Before the merger, we were asked what an NPO network is and what it connects with what. After the merger, we found that the City government is feeling the same thing as us; we need to be connected to arouse change. Then we started to think about how we can do 'collaborative machizukuri'. (An NPO member)

> We feel that citizen participation will work more smoothly if there is a network support centre; somewhere we can go to obtain information or advice if we want to do something. In Makino, it could be Makino Machizukuri Network Centre. (An NPO member)

This round table discussion suggests that networking solely within the same sector is limiting, that network building is necessary to involve various actors in *machizukuri* processes, which would help in finding better approaches with more information and with more support, and that there is a need for an actor that connects different networks. That is the role the Citizen Collaboration Centre is expected to play for the whole

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[26] Local Human Resources and Public Policy Development System Open Research Centre (LORC), Ryukoku University.

[27] http://www.pref.shiga.jp/c/katsudo/kyodonet/e-room/round_table/20090126/20090126_15.html.

of Takashima City. The Centre recruited its head Mr N. Jinga, in June 2009. He was originally a private sector person in another prefecture. Mr. Jinga considers that the Centre is an independent organisation which provides public services; public administration (the city) provides funding but no directions, and therefore the Centre is not expected to follow the city's plans in detail. What he hopes is that events the Centre organises will lead to networking of participating groups. After becoming the Centre's head, one project he initiated was collecting caps of plastic bottles, which had not previously been properly recycled, and selling them to obtain polio vaccine. An NPO used the vaccine and started some networking. Mr Jinga believes that his role is supporting this kind of networking, for example finding new ideas with citizens and helping them explore those ideas that would hopefully lead to meeting other people with similar or better ideas. This is different from making networks top–down. The way he deals with people who approach the Centre for assistance may help its development.

3.4. Economic and environmental policy

Whether the city adopts measures to meet the demands of sustainable development is the next concern. 'Wa no Sato' (back to a recycling society on the land) is a concept the city has adopted since 2006 to apply to five areas – tourism, industry, environment, food and care – as a shared policy goal under the leadership of the visionary, mayor, Mr Kaito, who took office in 2005, 1 month after the merger. With the character 'wa' meaning 'circular', the idea is to create a recycling-oriented society, where community citizens work together restoring a close relationship with nature. What 'Agri-Takashima' has been focusing on since 2007 is environmentally friendly and safe farm products: 834 ha out of 3680 ha is used for 'Kankyō Kodawari ('environmentally scrupulous') Farm Pro-ducts', either under natural organic farming which does not use chemical fertiliser/chemicals or farming which uses the minimum amount.[28] 113 out of 198 commu-nities[29] are making efforts to revive traditional rice farming methods and fishways, as a result of which many other forms of life are recovering as well. Not using chemicals, or little, naturally restores living creatures to the rice paddies, attracting more birds to live on frogs in the fishways. Takashima City certifies the crops from these 'cradle paddies', rich in living creatures, as 'Takashima Living Creature Rice-Paddy Rice' as people are increasingly concerned about food safety in recent years.

Takashima City established the Basic Environmental Ordinance in 2005 to express the city's environmental policy. A feature to note, the city says, is that it includes penalties provisions for violations. Next, the city started to formulate the Basic Environmental Plan as an action manual to implement the policies stated in the Ordinance, and published the Plan in 2007. It was drafted by a planning committee of 30 members – representatives of two leading environmental NPOs in Japan, two academics, representatives of seven citizens' groups, and four publicly recruited citizen members. Over a period of 18 months, the Committee held 35 meetings led by the NPO members and/or academics. It was decided that the end-promoters of the Basic Environmental Plan could be 'Eco-life Promotion Councils' established in each of the six pre-merger towns/village and 'Environment Promotion Members' to be appointed within each neighbourhood association with the target of 10% of NAs assigning a member to the role by 2012 and 100% by 2017. Other targets include the number of environment study sessions and exchange forums conducted by businesses, schools, NAs, and other groups, waste reduction targets, and the acreage of 'environmentally scrupulous' farming. This last target of an increase from 370 organic/low-chemical hectares in 2007 to 1010 ha by 2012[30] has been achieved as planned. The Basic Environmental Plan states that the monitoring of these targets will be conducted by Takashima Environmental-Management System (TES), which is managed by a team of citizens, NPOs and the city staff.

TES is based upon the Local Authority Standards for the Environment (LAS-E) developed by the Coalition of Local Governments for Environment Initiatives (COL-GEI), a network of 56 local governments (38 cities, two wards in Tokyo, 12 towns, and four villages) in Japan. LAS-E requires citizen participation (local residents and/or businesses) in the target setting and monitoring teams led by experts. Before the merger, three of the five towns had been certified to ISO14001 standard but the new city's mayor saw that LAS-E would be a way to

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[28] 'Organic agriculture products' are defined by the Japan Agricul-tural Standard (JAS) Law as agricultural products produced without using chemical pesticides or fertiliser for 3 or more years. Use of GM and radiation is also not permitted.

[29] http://www.city.takashima.shiga.jp/, www/contents/1159341968368/html/common/other/4fb9d5e9104.pdf.

[30] Environmentally Friendly Agriculture Division http://www.city.takashima.shiga.jp/.

involve citizens. The citizens in the target setting and monitoring teams are unpaid volunteers. They had eight evening workshops combined with meetings led by the COLGEI spread over a year. A COLGEI[31] report in 2005, for example, states: "it was decided in May that citizen members who are available during the daytime will all attend the monitoring ('citizen audit') and three environmental audit workshops were held for a total of 200 participants including staff members and citizens to prepare for the 3-day audit in November". The TES system currently monitors only the environmental management of government offices, but it is planned to expand it to monitor the achievement of other environmental policy targets in the near future.

In Takashima achievement of plans seems to be making steady progress: projects conducted collaboratively with citizens such as 'environmentally scrupulous' farming are meeting the targets. Although some targets stated in the Basic Environmental Plan give an impression that responsibility for some environmental improvements is assigned to communities by local government, this may have been the way the collaboration, working together to achieve both sides' goals, between the local authority and communities has worked for a long time in Takashima through the informal consultation channels of neighbourhood associations. With the recent depopulation situation, however, the city is searching for a new business model or a new form of collaboration to achieve its goals. The current system initiated in 2009 with the Citizen Collaboration Centre is an approach the city government chose to take and may provide a new style of collaboration with a bottom–up approach. What type of vision the city has for the 'sustainable society' is the next issue of concern.

3.5. Takashima's vision for a sustainable society

Takashima's vision for a sustainable society released in 2009 by the city is based upon: 'Sustainable Shiga 2030', the prefecture's vision for a sustainable society, and a 2008 survey of Takashima citizens' vision and the current state of energy use. 'Sustainable Shiga 2030' provides two scenarios to help citizens think about the future of society; a 'tech-oriented society' promoting globalisation of communities, high-level education, advanced technologies, and division of labour, and a 'harmony-with-nature society' promoting self-reliance

and self-sufficiency of communities in industrial development with emphasis on values and a closer relationship with local government.[32] Annual real GDP growth is assumed to be 1.5% a year for the former and 0.7% a year for the latter[33] (Table 3.4).

It seems that the present development of cities is heading more in the direction of the 'tech-oriented society'. This is due not only to government policies but also to people's, especially the young generation's, orientation towards acquiring various experiences, knowledge, and skills in order to secure job opportunities. However, communities in the countryside cannot realistically opt for anything other than the 'harmony-with-nature society' due to limited opportunities for change. What seems necessary for both city and country localities to be sustainable is to have both elements appropriately mixed, making a system such that office workers are able to work mostly from home in a compact city in the hinterland, using advanced technologies for e-conferencing, e-commuting, and e-shopping; it should help ease country localities' decline of local industry and increase in abandoned farmland/hillside and also city localities' problems, such as air pollution, lack of space for nature and comfortable living, and high land prices. Japanese experience of urban sprawl suggests that high population density, more mixed land uses, greater use of public transport, and highly efficient energy consumption may not by themselves promise urban sustainability (Hebbert, 1986; Sorensen, 2004). Policies for sustainability require not only land use planning and transport policies but also integrated policies that incorporate economic, environmental and social dimensions.

Based on this 'Sustainable Shiga 2030', Takashima City decided on its approach and in 2009 published its vision for a sustainable society with a goal of achieving 50% reduction of GHG emissions from the 1990 level in a report titled '2008 Takashima City Community Energy-Saving Vision'. The report emphasises the importance of identifying the type of future lifestyle Takashima's citizens desire. The vision promotion plan is shown in Table 3.5. According to this plan, setting up of the Citizen Collaboration Centre seems to be part of the 1st Period implementation.

Table 3.4
Two scenarios for the economy and industry.

Key words	Harmony-with-nature society	Technology-oriented society
Real GDP growth	0.7%/year	1.5%/year
Industry	Primary industry production in 2030: 2.9 times that of 2000	Secondary industry production in 2030: 1.5 times that of 2000

Source:
Sustainable Shiga 2030, Report Vol. 2
January 2008
Illustration: A. Inagawa; NIES

Table 3.5
'Takashima Sustainable Society' vision promotion plan.

	Period	Years	Main initiatives for 50% GHG reduction
1st Period	2009 ∼ 2011	3	Human resources development and network building
2nd Period	2012 ∼ 2016	5	Start building social infrastructure
3rd Period	2017 ∼ 2021	5	Steady diffusion of energy-saving/renewable energy technology
4th Period	2022 ∼ 2026	5	Close to completion of measures for social infrastructure building
5th Period	2027 ∼ 2030	4	Follow-up/additional measures to achieve the goal

Source: n.

The 2008 survey on 2000 households and 627 businesses with a 28% return rate showed that a major source of CO_2 emissions was car use. Because communities are some distance from each other in the countryside of Takashima and it is not easy to use public transport, 42.5% of households own two cars and 60–80% of households use cars for commuting, shopping, etc. However, close to 80% of respondents responded that they refer to the CO_2 emission amount on 'green stickers' in choosing products, and more than 80% responded that they are making efforts to reduce energy use. The city now considers that the citizens have passed the awareness-raising stage and that the city should provide information on concrete measures to reduce energy use ('2008 Takashima City Community Energy-Saving Vision'). The responses of businesses showed that about 64% are still using 1990s' equipment. This shows the potential for business to make much progress in energy-saving by changing to high energy-efficiency equipment. Regarding interest in energy-saving consultation, about 40% of businesses showed reluctance saying they cannot make investment for such improvement. Although households showed a more positive stance with regard to advancing energy-saving than businesses, the responses of both to the question ''Do you support building a sustainable society?'' showed 60% supporting this. The city

believes that there is 10–30% of the population which supports 'sustainable society' building. For most of the questions, 10% responded that they positively support new initiatives for achieving the goal. The city labels this 10% the 'Environmental Layer', which they consider would be reliable supporters for most environment-related initiatives.

The questions which received more than 70% positive response were 'use of renewable energy' (Figs. 3.4 and 3.5), 'compact city making' (Figs. 3.6 and 3.7), 'expanded use of local lumber', and 'expanded use of local food products'. For 'compact city making', the support shown by citizens and businesses was about the same (65%, 63%). Citizens were clearer in their attitude towards 'renewable energy'; 56% responded that they positively want to use it and 4% responded 'use it if
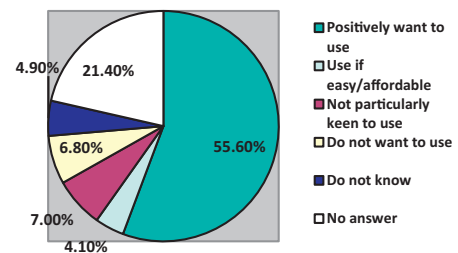
Fig. 3.4. Citizens' interest in use of renewable energy.
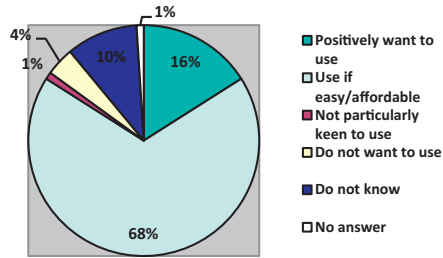
Fig. 3.5. Businesses' interest in use of renewable energy.
Source: 2008 Takashima City Community Energy-Saving Vision.
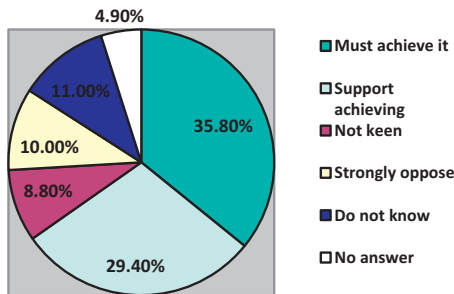
Fig. 3.6. Citizens' interest in compact city making.
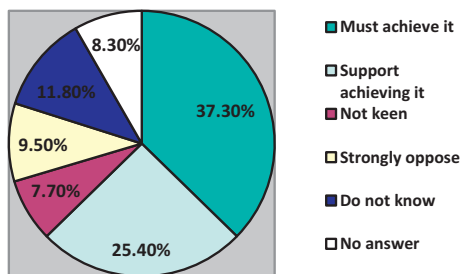
Fig. 3.7. Businesses' interest in compact city making.

easy/affordable', while 17% of businesses positively want to use it and 68% responded 'use it if easy/affordable'. Economic incentives seem likely to be necessary to trigger a shift to renewable energy use by businesses. Transport measures such as 'bus service on demand' were supported by 62% of households responding ('Positively want to use' 15.4%; 'Use if easy/affordable' 46.2%), while 'car-sharing' was supported only by 30% ('Positively want to use' 6.8%; 'Use if easy/affordable' 23.3%) and negative responses were 57% ('Not very keen to use' 25.9%; 'Do not want to use' 31.0%).

Takashima's scenario for a sustainable society for 2030 is based mainly upon the 'harmony-with-nature' option from Shiga prefecture's two scenarios. Citizens'

preference shown in the survey was for creating a 'Takashima-type' vision, using community power, maintaining fairness to everyone, particularly not allowing the handicapped, the elderly, women, and minority citizens to become victims, without incurring extra tax. It is encouraging that the citizens' vision of the future of Takashima is bright, not one of depopulation.

3.6. Conclusion

In Takashima there has been a solid base of bonding social capital networks which has continued for decades and has succeeded in maintaining local communities' living environment, and the local government-led approach to achieving sustainability has in fact attained its SD goals to a good extent. There is however a possibility that the conservative nature of the communities has limited the development of bridging social capital, the type of social capital which helps information and resource flows between communities. The experience since the 2005 merger has shown the city that creating bridging networks top–down may not proceed as hoped. This seems to be the biggest lesson learned from Takashima's case study. Unless citizens or citizen groups themselves feel the need to obtain information or work together with other groups, networking does not build. A new idea to tackle the deadlock of 'no communication happening between those newly created community organisations' came up from the discussion of the Roundtable convened by the city government in 2008, 3 years after the merger. The city grasped what citizen groups or NPOs wish to have: a place they can come for information or to meet people with similar goals benefiting or complementing each other. Thus, the idea of the Citizen Collaboration Centre was born with further collaboration with a university research institute and a citizen group which had been playing the information centre role on a small scale. The city government had a good understanding of what it would take for Takashima to achieve sustainable development: biodiversity protection in rice paddies, an integrated approach in the five areas of the city, and citizen participation in environmental management and monitoring. However, Takashima's case suggests that only providing LA 21-oriented policy measures is not enough to achieve autonomous expansion of local action for sustainability, which requires citizens' ownership-backed local action. Together with the endeavour for 'Wa no Sato', the city government's opening up for new knowledge and information (working with citizen groups and experts) and
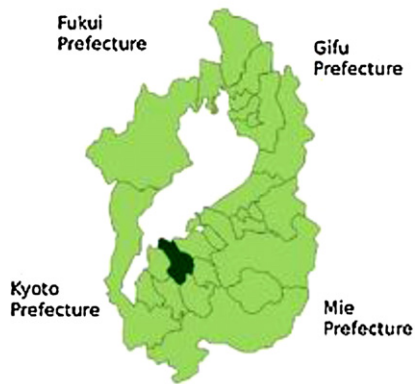
Fig. 4.1. Location of Yasu City.
Source: http://en.wikipedia.org/wiki/Yasu,_Shiga.

Table 4.1
Comparison of employment in each type of industry in Yasu, Shiga and Japan in 1995/2005.

Population	Primary industry	Secondary industry	Tertiary industry	Total
Yasu City	6.1%/4.9%	42.5%/36.3%	51.4%/57.5%	100%
Shiga Prefecture	5.0%/3.7%	40.8%/34.4%	53.8%/60.5%	100%
Japan	6.0%/4.9%	31.6%/26.6%	61.8%/68.5%	100%

Source: Census 1995/2005 (http://www.stat.go.jp/data/kokusei), Shiga Statistics (www.pref.shiga.jp/c/toukei).

reviewing and revising its strategies is a step forward on the track for sustainable development backed by citizen participation.

4. Case study of Yasu City

4.1. Geographical and economic background

Yasu City, located on the south side of Lake Biwa, with about 50,000 people and an area of 81.47 km^2, used to be known for its dyeing industry utilizing the clean water of the Yasu River, which runs through the city (Fig. 4.1). This clean water has attracted information technology (IT) companies to start operations in Yasu since the 1970s, with substantial effects on the development of its industries and communities. Yasu is a typical Shiga city in terms of its industrial structure. Shiga Prefecture has the highest proportion of its population in secondary industry employment among Japan's prefectures and is fourth in terms of GDP, and Yasu has more employment in secondary industry than Shiga Prefecture's average (Table 4.1), and manufacturing turnover in 2009 of ¥255 billion (£1.97 billion).[34]

Yasu City is at the crossroads of three regions: Kyoto is 25 min away by train and Osaka 55 min. Because of its advantages in location in terms of transport and ease of securing human resources, and access in the prefecture to six universities with science and technology departments, Yasu has factories of seven major advanced high-tech firms including Kyocera with a large-scale facility to supply Toyota with solar panels for its third-generation hybrid cars (*Kyoto Shinbun*, 23 Feb. 2009) and was designated as a city to promote industrial clusters by the Ministry of Economy, Trade and Industry in 2007. Major manufacturing industries in Yasu include communications, chemicals, machinery and electronic.

4.2. Governance for sustainability – commitment to citizen participation

Yasu City's *Machizukuri* Ordinance was enacted in 2007. Although Yasu had already various citizens' activities before becoming a city in 2004 when it merged with Chuzu Town (population 12,000), establishing a *machizukuri* ordinance was thought necessary to set the rules for collaboration with citizens (Mr Y. Kita, Chair of the *Machizukuri* Basic Ordinance Promotion Committee). Article One states that "The purpose of the Ordinance is to clarify the roles of the

[34] http://www.meti.go.jp/statistics/tyo/kougyo/result-2/h21/kakuho/sichoson/index.html.

Table 4.2
Citizen participation development in Yasu (*Italics* indicate plans and projects established in collaboration with citizens).

1890	Citizens' groups started to be established in Yasu Town
1990	'Smile Yasu Town Human Rights Declaration'
1995	40th Anniversary of Town Government
	'Environment' and 'human rights' made its two pillars
1997	*Waste cooking oil recycling to produce biodiesel fuel (BDF) started*
1998 (–2000)	*'Yasu Town Machizukuri White Paper'*
	Data Book of 160 citizens' groups compiled collaboratively compiled with citizens
1999 (–2001)	*'Yasu Town New Energy Vision' → 'Eco Sun San (mountain) Project'*
	Forest restoration, use of timber thinnings, employment generation, and establishment of a small-scale solar energy plant
2004	Yasu City (merger with Chuzu Town)
	'Smile Market' project using 'Smile currency'
	Profits used to establish three small-scale solar energy plants
2005–2006	*'Yasu City Basic Environmental Plan'*
	'Yasu City Comprehensive Plan'
2005–2007	*'Yasu City Basic Machizukuri Ordinance'*
	The Environmental Plan Promotion Committee developed 24 projects with citizens

citizens, city assembly and the government in achieving a self-sustained community by utilising the citizens' wisdom and power based upon the principles of human rights and the environment, so that the citizens can actually feel meaning in their life." Yasu had in fact established the basic tenets of the town's community planning much earlier in Yasu Town's 1990 Human Rights Declaration. Further, the town government chose to put 'life' as its 'super-concept', 'human rights and the environment' as its principles, and citizens' activities as its priority for policy measures to implement the concept in 1995, when the 50th anniversary of the end of the war gave the town an opportunity to review the concept of their *machizukuri* (community planning) (Mr Y Endo, *Machizukuri* Promotion Office, Yasu City). In 1999, the town published the Yasu Town 4th Comprehensive Plan, in which a 'Living Creature-Friendly Environmental Project' was created as one of three overarching projects, indicating environmental conservation as the main policy of Yasu Town's *machizukuri* (community planning). Yasu City's emphasis on the 'environment' and 'collaboration with citizens' can be seen in their annual project appraisal method. In addition to brief comments and ratings (on a scale of 1–5) for a multitude of indicators in Yasu City 2007 Project Evaluation Table (Nov. 2008), additional comments are given "through the three filters of human rights, environment, and collaboration". In other words, projects are reviewed in terms of whether they have made progress in each of these three dimensions in order to remind the staff members of the city's focuses.

Examining Yasu's citizen participation, Hiraoka and Wada (2005, pp. 49–52) argue that Yasu successfully involved citizens in its action for global warming prevention. From 1998 to 2000, the town compiled the Yasu Town *Machizukuri* White Paper, an annual report, collaboratively with citizens. Conducting surveys and writing the report were all done with citizens, and participants came to know each other during the process, gradually forming a network, eventually named Smile Network Yasu, which the city government has supported by setting up a website, "Citizens' Research Office", running information about various activities and research reports, including topics such as 'Why Do We Need Consensus?' and 'Housewives' Report: 'What We Care About', giving the contributors the title of 'Local Expert' or 'Associate Expert'. Hiraoka and Wada observe that this network, an output of the White Paper formulation process, has made a great foundation for Yasu's *machizukuri* (community planning); the actors learned from each other who to talk to and work with to do what they want to do. They also note that the city successfully made global warming prevention, which tends to seem rather remote for local citizens, a familiar issue, by choosing 'renewable-energy-use increase' as the core of their global warming action.

By the time Yasu Town started formulating its New Energy Vision in 1999, its government had been working on various activities with citizens to promote an environmentally friendly lifestyle and forest preservation, and on obtaining ISO14001 and providing subsidies for installing solar PV panels (Endo, 2007). As a result, the percentage of installation by households of solar PV power generation is 3.7% (as of Jan 2012), and the total installed capacity is 2500 kw, according to a Yasu City official. However, the proportion of solar PV power generation of Yasu's overall energy
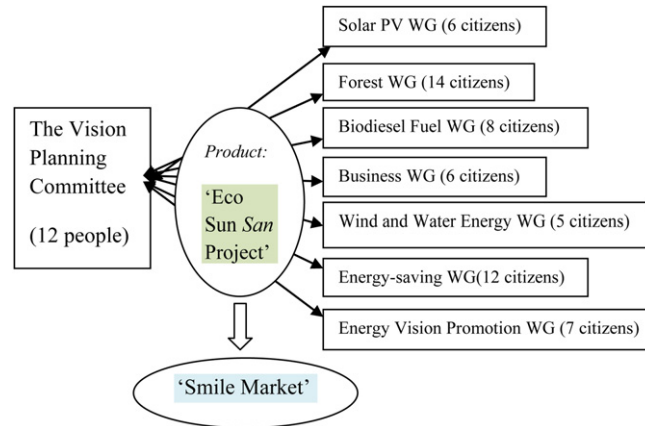
Fig. 4.2. The 'Smile Yasu Energy Vision' planning 1999~2001.
Source: author.

generation is not available at present and the target figure for the increase will be decided by 2013. It is expected that solar PV power generation will rapidly increase when the feed-in tariff law of August 2011 comes into force in July 2012. Yasu's outputs in collaboration with citizens are listed chronologically in Table 4.2. Three are explored in the next section paying attention to the social capital networks generated in the development processes.

4.3. Yasu's action for global warming mitigation

4.3.1. 'Yasu Town New Energy Vision'

'Yasu Town New Energy Vision' is Yasu's plan for the 'Community New Energy Vision', which is a policy measure of the Ministry of Economy, Trade and Industry (METI) to promote renewable energy use through local government, with METI subsidising 100% of plan formulation cost through NEDO,[35] an independent administrative institute. The New Energy Vision serves as Yasu's sustainability vision together with the Yasu Basic Environmental Plan. Establishing the 'New Energy Vision' with citizens took 3 years from 1999 to 2001. The Vision Planning Committee was composed of one town staff member, three academics, one NPO representative, and seven citizens including two from other cities in Shiga Prefecture. The Committee established seven citizens' working groups

(WGs), each designed to include various types of stakeholders (Fig. 4.2). The solar PV WG, for example, was made up of citizens who had home solar power generation and related business people, the forest WG of forest cooperative members and citizens involved in rejuvenating *satoyama* (community hillsides), and the energy-saving WG of representatives of neighbourhood associations active in energy-saving. Each WG was a mix of professionals and citizen users. The seven working groups deliberated on the draft policies produced by the Vision Planning Committee and submitted their proposals to the Committee, which deliberated them and decided the final content of the policies. The opportunities given to the WGs to return their feedback as proposals on the policies of the Committee produced a highly efficient process of opinion exchanges and networking of these individuals. The network formed here was more than a bridging network; it was a bracing social capital network in that the individuals involved were not just part of a loose bridging network but each was a leader in his/her own network, including forest groups and eco-lifestyle networks, potentially connecting a larger number of people to whom they could bring back information about decisions formed in the committee for action to be taken in their individual networks. Early in the formulation stage of the Yasu Town New Energy Vision, the Vision Planning Committee estimated the amount and types of usable renewable energies in Yasu, and explored ways of encouraging wider use of renewable energies. Its first 'product' was the 'Eco Sun *San* (mountain) Project' in which a system for regenerating abandoned *satoyama* (community hillsides) was created; the resulting timber thinnings were used for renewable energy generation and job creation.

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[35] The New Energy and Industrial Technology Development Organisation (NEDO) is Japan's largest public R&D management organisation for promoting the development and growth of advanced industrial, environmental, new energy and energy conservation technologies.

The committee members were in agreement that any project they devised should not lose money but make at least a small profit, and that people should have fun participating in it. In this Eco Sun *San* Project, the small profit was that participants could bring back shiitake mushrooms from the hillside they worked on and enjoy fun time together in a cabin made of timber thinnings. From 2004, this 'Eco Sun San Project' developed into the 'Smile Market', whose idea of developing 'local production for local consumption' came out of the deliberation process of the 'Yasu Town New Energy Vision'.

4.3.2. 'Smile Market' project produced by a bracing social capital network

In the 'Smile Market' project, citizens are involved as donors as well as shoppers and/or suppliers of local products, or as partner shops. Donations are collected to build solar power generation plants. In return for their donations, donors are given community currency, valid for 6 months, to the value of 110% of the amount they donate, and they can use this 'Smile' currency to pay for 3–5% of their purchases in about 200 registered partner shops. In return for the 3–5% discount they provide, these shops are introduced in the community paper with photos and can participate in a city-sponsored market where they can sell their products. In 2007, the amount collected was about ¥1 million (£6700). By 2005 three solar power plants (each producing 2000–4000 kwh annually) had been built in places where the solar panels are visible to the citizens and this visibility seems to have worked well; some shops have almost doubled their sales (H. Wada, Vice Chairman, Ecolocal Yasu. Com). Many citizens are also involved as suppliers of the products. Mrs K. Goto, a local farmer, leads a group of housewives making anthocyanin-rich purple sweet potato products to sell at the Smile Market and enjoys creating new sweets with her members and making a small profit. Mrs F. Ochiai, a leader of 52-member citizen environmental group, Yasu *Seikatsu Gakkou* (life skills school), has learned from farmers how to grow soybeans organically and sells organic *miso* (fermented soybeans) paste at the Smile Market. Since experiencing as a new resident the 1977–1980 'Soap Movement' of Shiga housewives, which denounced the use of synthetic detergent that was destroying the water environment of Lake Biwa in the heart of Shiga Prefecture, she has continued to promote 'green shopping'.

Many organisations including local governments, citizens' groups, and research groups have visited Yasu to learn about this project. They see the benefits as being: (a) promotion of solar energy power generation by attracting citizens' attention effectively, (b) dual benefits of 'food miles' reduction and local produce promotion, (c) possible regeneration of the community's shopping streets through the increased use of local currency, and energising local citizens. The main benefit of this project seems to be that citizens have taken ownership of the process by actively being part of it and that this made them more interested in taking action for the local environment. The Smile Market project is managed by an NPO, Ecolocal Yasu.Com headed by Y. Tani with three other key individuals: Y. Endo of Yasu City, H. Wada, CEO of an engineering company dealing with installation of solar panels, and T. Minami, owner of farms and Chairman of Yasu *Chisan-chishō* (community production for community consumption) Promotion Council (CCP Council). Ecolocal Yasu.Com is not a contract-based partnership but collaboration based upon shared ideas and goals; each of these four individuals has a profession and manages this NPO as a volunteer activity. The CCP Council was established by farmers, individuals, businesses and Yasu Town government in 2003 to regenerate the local economy. Mr Tani, an architect and builder, explains that the members of Ecolocal Yasu.Com are considering building a system whereby the Yasu version of 'local production – local consumption' sells not only local produce but services provided by local people in exchange for 'Smile' currency: one such service would be to delivery to single families, elderly or handicapped people.

The 'Smile Market' using the 'Smile Currency' is, however, still a small-scale operation. Some citizens feel that the number of member shops should be increased to make the currency easier to use. Some others feel that an effective means of recirculating the currency the partner shops receive needs to be devised. These opinions reach the four key individuals through the network. Things are still in the process of being tried and modified where necessary. In order to expand the use of the 'Smile' currency and the sale of local produce, a new networking is taking place; 'The "Welcome to All-Yasu Produce" Council' (WAYP Council) has been established headed by Mr Minami with some individuals and eleven groups including Vegetable Cooperatives and the Consumer Life Study Group (Fig. 4.3). Mr Minami plans to strengthen the networks between producers to further expand the supply of organically grown local produce. The WAYP Council was informed that they would receive national funding (¥200 million/£1.5 million a year for 4 years) for a 'Community Power Model Project' (7 Nov. 2009
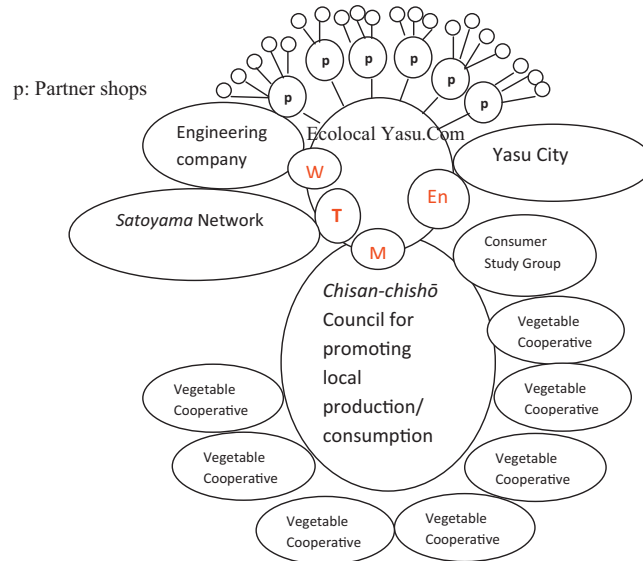
Fig. 4.3. The Smile Market network.

Kyoto Shinbun newspaper). However, there is always an element of uncertainty when the ruling political party changes (Mr Y. Tani). The influence of the national political environment on the financial situation locally is a factor that may affect the development of collaboration for sustainability.

These four individuals form a closely tied bracing network based on a trust relationship acknowledging each other's efficiency in 'getting things done' by effective communication that mobilises the members of their networks in a 'communicative action' mode, linking their bonding networks to the Smile Market bridging network; Mr Minami, for example, connects consumer study groups and vegetable cooperatives to the Smile Market network as illustrated in Fig. 4.3. Granovetter (1973, p. 1363) uses the phrase, "crucial bridge" in explaining the 'strength of weak ties' to argue that without a weak tie of two individuals, the two clumps they are part of would not be connected at all. Using his phrase I would argue that the ties linking the four are a "crucial bridge"; were it not for the existence of their bracing ties, these various networks would not have been connected to one another at this scale and with these outcomes: promotion of renewable energies and local produce, possible regeneration of community shopping, and most importantly, cultivating citizens' 'we could do more' mindset.

4.3.3. 'Basic Environmental Plan Projects' – citizen-initiated plans complementing city projects

The city's Department of Environment and Economy is in charge of implementing the 2007 Yasu City Basic Environmental Plan, the core of Yasu's environmental plan, in collaboration with citizens. The process of formulating such formal plans is described by Miyanaga (2008)[36] who took part in making the Plan from 2005 to 2007. The planning committee of this plan was composed of 30 citizens, seven city staff members, and the deputy mayor, who often attended its meetings. The 30 citizens were eight publicly recruited individuals, 18 community organisation representatives, and four representatives of business organisations. The twice-monthly 3-h committee meetings continued for about a year and a half. Important features of the process were agenda setting from scratch in the committee, concrete project setting using a checksheet (who does what for what objective for what effect, and how), committees combined with workshops to encourage active thinking, and halfway forums to obtain feedback from citizens and involve more citizens for smoother implementation. There is an understanding that now is the time [in Japan] that, rather than just demand things of the administration, citizens too should take actions to achieve the shared goals of the community (Mr Y. Ofuji, the Environmental Division Chief).

In the Basic Environmental Plan, Yasu's vision for the future is given as a 'livable city with a sense of security, full of green, and with water full of various

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[36] Miyanaga (2008), 'Preparation and Implementation of the Basic Environmental Plan Through Public Involvement and Partnership: A Case Study of Yasu City', Lake Biwa Environmental Research Institute.

lives of living things'. It is followed by three lists, one describing the state of the environment as the citizen members experienced it, another of the agenda they selected, and lastly a list of the city's environmental projects. The 'Basic Environmental Plan Projects' are positioned as means to realise the vision by complementing the city's projects. In 2008, 15 projects were planned, implemented, and assessed by about 100 active citizen members who came together through their network connections. A city staff member attended each of 15 project meetings held monthly as a liaison person. In that year, 24 events were organised in relation to the 15 projects, with the participation of 946 citizens in total. These 15 projects were 8 for preserving/restoring forest, farm or water environment, five for reusing/recycling resources, and two for adopting an environmentally friendly lifestyle. The annual project support provided by the city in 2008 was ¥327,000 (£2500). The group also received ¥260,000 (£2007) in donations from water environment committees sponsored by Shiga Prefecture, and had the support of Chuzu Fisherman's Cooperative Association for the annual boat trip and clam-fishing. Mr Ofuji, the Environmental Division Chief, keeps contact with the representatives of each project team and attends an annual general meeting for all the project teams, where an activity report, financial statement, and planning for the following year are presented by each project representative.

The first issue in implementing the Basic Environmental Plan seems to be how to make linkages between these citizen-led projects and the city's projects under the Yasu City Comprehensive Plan, the highest-level plan of the city, comprising a 14-year master plan and project implementation plans. It is still taking time to improve horizontal coordination between different departments. The second issue is finding a good way to make the most of the resources accumulated by citizens' activities in order to maintain their enthusiasm. The solution found by one project team was to incorporate it as a non-profit organisation (NPO). The 'River Yamune Tour Boat', which runs a tour boat for eco-tourists, was established to build on the expertise the project team had amassed to preserve the river's natural environment on a long-term basis. Incorporation gives the members a formal status to receive funding and maintain incentives to continue their activities on a regular basis. In fact, this form of community business creation is regarded as ideal (Mr Y. Ofuji): community citizens identify the needs of the community, learn and accumulate knowledge by doing activities, and work out ways to make it sustainable as a

business. For the city too, this is something the government wants to encourage as a way to increase employment. There seem to be two motivations for citizens to participate in the Basic Environment Plan projects: one is obtaining opportunities of socialising with other people, and the other, a sense of achievement, or a 'mission' for the community, at the same time gaining confidence by creating plans or projects on their own, according to Mr M. Kawamoto, a representative of a project. His team's project is 'Buying and Selling Without Increasing Waste': they are working on making an agreement with supermarkets to reduce packaging in collaboration with Shiga Prefecture thus extending beyond Yasu City. The joint working with the Prefecture happened because the latter contacted the Environmental Division of Yasu City to work together on packaging reduction. As part of this project, Mr Kawamoto's team is making teaching materials based on their survey results giving lectures, puppet shows and dancing displays on 'how to reduce waste' at elementary schools and nursing homes. The importance and the value of their work were appreciated at a higher level: in 2010 the project was awarded the Minister of the Environment Award for Promotion of a Recycling-Oriented Society. Through its packaging and waste reduction initiative, this small project is gradually forming a bracing social capital network, making ties with supermarkets and schools in the prefecture, the prefectural government, and the central government, with potential for replication in other parts of Japan. All three projects described above have successfully generated networks, which helped build up their activity range with new resources. What then has helped natural network generation and expansion compared to Takashima's case? This question is examined next.

4.4. Factors in bridging network expansion in Yasu

In 2009, 327 citizens' groups were registered in Yasu City, involving 24.5% of the citizens. They can be classified into five categories in terms of the boundaries within which their activities are taking place: groups doing activities only within their neighbourhood community (14%); within Yasu City (41%); within Shiga Prefecture (39%); within Japan (5%); and those active overseas as well (1%) (Fig. 4.4). This suggests that, compared with Takashima, Yasu citizen groups tend to have a high ratio of bridging type networks to bonding ones.

If we examine Yasu citizens' activities over a longer time-span, the data shows that citizens' activities were
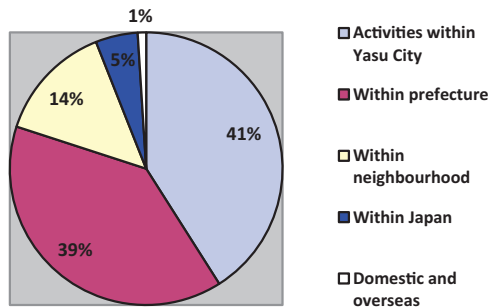
Fig. 4.4. Yasu citizens' groups classified by physical range of area.

very limited in number and range before the 1970s: learning to use musical instruments for local festivals and enjoying poem writing/singing together within their neighbourhood communities (Yasu Citizen Activity Data Book, 2007). The number of citizen groups began to increase in the 1970s (Table 4.3) and the data book also shows citizens' activities began to increase rapidly beyond neighbourhood boundaries in the late 1970s with the rise in *machizukuri*/environmental preservation activities.

A possible reason for the rapid increase in citizen activities in Yasu was the arrival of new residents in Yasu communities as a result of the opening of IBM Japan's operation in Yasu in 1971, followed by six more high-tech companies (Mrs F. Ochiai, an environmental group leader). With this immigration, the city's population increased from 26,938 in 1966 to 32,513 in 1975.[37] This influx has had a definite effect of empowering two forces: one that has local knowledge and another with outside knowledge. "People from outside the city have different expectations from those of local people; they note good features of the new place, which locals do not consider of value, but new people also notice problems, and begin to work together to deal with them", considers Mrs Ochiai. In retrospect, she feels strongly that the new arrivals have been the reason for many citizens' active involvement in citizen activities. This suggests that new knowledge or interest brought in by newcomers might have given impetus to locals to take action against environmental pollution, which was rapidly increasing starting in the 1970s. This matches the statistical data in Table 4.3: the number of citizen groups in Yasu has increased rapidly since the early 1970s, possibly due to the arrival of IBM in 1971. The same view was expressed by Mrs Urata, the head of

the 'Himawari (sunflower) Society', which provides elderly people in the Oumi Fuji school district with a homely 'salon' in a kindergarten room; they can come by to enjoy chatting with other elderly people or kindergarten pupils. Oumi Fuji is made up of seven neighbourhood associations with about 740 households. This is a community which has come into being in the past 30–40 years due to IT firms establishing factories in the city. Mrs Urata, having moved to the city in 1973, is, like most of the 66 members of the 'Himawari Society', a 'non-local'. Mrs Urata says that 'new residents' are no longer newcomers; many have lived there for more than 30 years and have started a number of citizens' groups. Her group and the people who use the Salon seem to be building a bonding network which is place-based, though not composed of 'locals'. With this influx, Yasu now has three types of districts: mixed districts of 'local' and 'new residents' such as the Yasu Station area, those where most of the residents are of non-local origin like Oumi Fuji, and those where most are 'locals' as at the foot of Mt. Mikami and in farming areas.

A question that might be raised here is whether this entry of new residents to Yasu has also brought change to neighbourhood associations in traditionally conservative areas. My research found that neighbourhood associations are changing their forms of management even in the most conservative areas. There are 31 neighbourhood-based citizens' groups out of 314 citizens' groups in Yasu. Of these 31 groups, 17 are doing activities in relation to environment/*machizukuri* processes and of these 17, four are situated in farming areas or at the foot of Mt. Mikami, where almost all the residents were born there. One of them, the 'Mikami Machizukuri 100-Person Society' is based on five communities, and does activities with the motto 'Think together and make *machi* (community) with everyone'. Its activity areas are environment, *machizukuri*, and youth education, and these activities are led by residents in their 30–40s (Mr Ichiki, a group representative). NAs in conservative areas used to be led by elderly residents and therefore the fact that younger generations are now leading their *machizukuri* (neighbourhood planning) activities is an outward sign that they are changing to a new form. Another all local neighbourhood-based citizens' group in a farming area is named 'Nohsu Cherii Mahketto' (north cherry market), a translation of the area's Japanese name. They hold events to mix with nearby 'new residents' communities to attract them to come to buy their farm products. As a partner in the 'Smile Market', they make efforts to mix with various communities (Mr S. Aoki, group representative). The fact that 17 neighbourhood-based citizens' groups

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[37] http://www.city.yasu.lg.jp/doc/seisakusuisinbu/kikakuzaiseika/files/8689.pdf.

Table 4.3
Start decade of Yasu citizens' groups.

Citizens' groups started in the	1890s	1920s	1940s	1950s	1960s	1970s	1980s	1990s	2000s	Start year not known	Total number of citizen groups
Number of groups	1	2	2	7	4	26	62	114	86	20	314

Source: 2007 Citizens Activities Data Book, Yasu City.

including ones in the formerly conservative areas do activities in the area of environment and gender equality in addition to *machizukuri* and youth education, representing new interest areas, may suggest that NAs in Yasu are adopting a new style of management along with new activities.

An example of a neighbourhood association situated near the station area is *Ekimae Jichikai* (station area neighbourhood association). This is an area where new and local residents are mixed. The neighbourhood association has a membership of 412 households (1004 persons), of which 60% are 'new residents'. The mixed group members have gradually become open to each other as they work together, in contrast to former days. There was a transitional period when the old and new residents had to learn from each other to come to form a shared identity (Mr Kita, the NA representative). They are now willing to adopt new knowledge or technology; for example, they boast of doing neighbourhood management 'paperlessly', when not many companies or professional organisations have yet adopted this environmentally friendly practice. IBM Japan's pullout from Yasu in 2005 was a blow to the city, which lost employment opportunities as well as residents. There seems to be a general understanding in Yasu now that in order to survive as communities under whatever circumstances, communities need to be open, learn to use new knowledge and stay connected with various networks, in addition to there being job opportunities. This reminds us of Bærenholdt and Aarsæther's (2002, p. 157) notion of 'coping strategies' for achieving sustainability: defining all local inhabitants as citizens and human resources facilitates an inclusive territorial strategy, where networking and the formation of multiple identities could produce social capital.

Another factor raised by several interviewees regarding what has helped generate various networks in Yasu has been a close relationship with some city staff members; they felt comfortable involving themselves in making the New Energy Vision or participating in the Basic Environmental Plan projects, knowing that when they need help, they have access to city staff members who willingly provide support by giving

information, including which organisation might be able to help or interested in cooperating. This comment is important because this suggests the type of governance Yasu provides. In Yasu, some projects are substantially citizen-led. If they are local government-led, citizens who are retired or are 'resting' after the busy child-rearing years may not want to spend the enormous amount of time and energy needed for volunteering. Yasu city has played the role of a facilitator-type government, which "allows considerable local autonomy to individuals and groups but provides a supportive framework, including the provision of specialised information, arenas for conflict resolution and the capacity to enforce institutional rules" (Rydin & Pennington, 2000, p. 164).

4.5. Conclusion

The strategy of Yasu's citizen participation for achieving sustainability seems to be creating 'citizen-led' community planning in its full sense; the use of renewable energy, for example, is likely to spread more widely among citizens if they themselves identify what level they are at and what level they could realistically aim for next and therefore what should be done to make it happen, while the role of the city is to prepare an environment in which citizens can take action according to their ideas (Mr Endo, Yasu City). This seems to have been the idea behind the collaborative creation of Yasu's sustainability vision, the Yasu Town New Energy Vision, where one city staff member and 69 citizens joined the formulation process for 3 years from 1999 to 2001, and these people, having gained a good understanding of the present state and potential increase in the use of renewable energy led local people through their networks to take new action. A business working group, for example, led the diffusion of a "Business Energy-Saving Diagnosis" initiative, whereby local business energy-saving experts visit local factories and provide diagnosis and advice, and neighbourhood associations (NAs) started recycling of used cooking oil to produce biodiesel fuel, raw kitchen waste composting, and solar PV panel installation on the roof of NA meeting halls,

for example. Through these kinds of collaboration with citizens, one notable change observed by a city staff member in charge of *machizukuri* was the clear division of roles between citizens and staff members, which in hindsight changed the attitudes of both actors. In Yasu, I clearly identified the existence of three types of social capital networks. Bonding networks in the most conservative area near Mikami Mountains are obtaining new knowledge and taking action for sustainability by being part of the Smile Market, the bridging network. Bridging networks are expanding with new alliances emerging among local producers, for example, and bracing networks are connecting them all to produce tangible results such as an increase in local production for local consumption and renewable energy use. In conclusion, Yasu is not local government-led. Rather, it would be appropriate to say that Yasu City has prepared a good environment for citizen participation to occur by: (1) implementing its commitment to sustainable development and citizen participation rapidly by involving citizens in rule-making – institutional framework plans such as ordinances – and empowering them, which generated a trust relationship between city government and citizens; and (2) city staff members making efforts to build a trust relationship person to person with citizens, which helped the accumulation of social capital in the Yasu City community. This indicates that Yasu City has assisted in the development of social capital not with a top–down approach but has played a 'facilitator state' role. With this approach, Yasu seems to be obtaining results in developing citizens' ownership of the processes for sustainable development.

5. Case study of Kyoto City

5.1. Historical and economic background

Kyoto, the imperial seat of government from AD798 to 1868 and a centre of art and artisanship in Japan, is known for three festivals including the *Aoi* Festival held in May for 1400 years, praying for a good harvest and the *Gion* Festival in July, from 869 to pray for a plague to cease. In the *Gion* Festival 3220 m-high 1 ton floats, owned and maintained for five to six centuries by city-centre neighbourhood associations, pull out in a parade.

Kyoto has been slow in developing manufacturing industries, with no harbour or surrounding open land. The Industrial Gross Product of Kyoto City was ¥5.7 trillion (£44 billion) in 2009 mainly from service industry (24.1%,), real estate (17.3%), wholesale and retail trade (16.2%), and manufacturing (15.5%) (Fig.
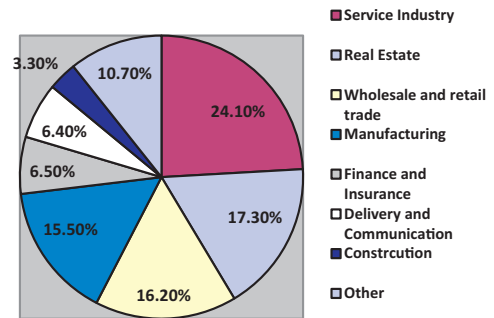
Fig. 5.1. Industry structure of Kyoto City in terms of output in 2009. Total ¥5,727,500 million (Kyoto City Statistics).

5.1). The proportion of output is 71% tertiary industry, followed by 28.6% secondary and 0.4% primary, a similar pattern to the national average (Fig. 5.2).[38]

5.2. Machizukuri (community planning) at city level

Kyoto City formulated a new urban-landscape ordinance in 2007 stimulated by the establishment of the '2005 *Keikan* (landscape) Law', which meant any cityscape regulations local governments made were finally given a legal backing. The new ordinance lowered the height restriction for the whole city from 45 to 31 m, and for the historic centre from 31 to 15 m. Further restrictions include the design of new buildings that are visible from any of 38 temples and gardens. Since the 1980s, Kyoto citizens have staged campaigns against the construction of tall buildings which would affect the neighbourhood-scape. This series of *machizukuri* (neighbourhood planning) movements indicates how strongly citizens support regulatory measures for height control, increasing scenic areas, and enactment of regulations to ensure Kyoto's 'three-dimensional view' (2007, 27 Feb. Central Executive Committee of Kyoto Municipality Labour Union). However, most Kyoto observers consider that the new policy should have been introduced much earlier; the lack of any action resulted in the construction of 46 buildings of 12 storeys or more during 2000–2006. Two tools that neighbourhood *machizukuri* processes have been using to protect streetscapes are the Building Agreement, a 10-year gentleman's agreement between landowners to follow a stricter standard than that set by the national

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[38] Statistics of Kyoto City: http://www.city.kyoto.jp/sogo/toukei/Kohos/20120221-01.pdf). Statistics of National Account, Cabinet Office.
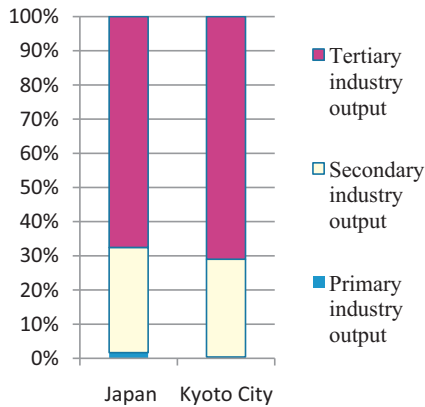
Fig. 5.2. Industrial output by sector in 2006.

building law, and the District Plan, which could, with 90% or more households' agreement and the approval of local government, become a public regulation overriding zoning regulations. Establishing a district plan is therefore an important form of collaboration between citizens and local authorities in contemporary *machizukuri* processes to protect the neighbourhood-scape against unwanted development.

5.3. Kyoto City's progress and plans for future in global warming mitigation

When Kyoto was about to host COP III to the UNFCCC in 1997, the city's Global Warming Counter-measures Promotion Programme was drawn up, high-lighting the target to reduce carbon dioxide emissions by 10% compared to the 1990 levels by 2010 and launching efforts to reduce greenhouse gas emissions in general. The Programme was revised in 2003 and again in 2006 to further enhance these policies and the efforts of citizens, businesses and the government. Kyoto City also enacted in 2004 the Global Warming Counter-measures Ordinance, Japan's first on global warming prevention, with a target of 10% CO_2 reduction and was chosen in 2009 by the Government as one of the 13 Environmental Model Cities to promote building a low-carbon society in Japan. Kyoto took the opportunity to set ambitious reduction targets for CO_2 emissions of 40% by 2030 and 60% by 2050 from the 1990 levels ''with a stance of aiming for a 'zero-carbon city' with no greenhouse gas emissions''. The 10% reduction target was achieved in 2008 by 11.6% reduction from 7.72 million tons in 1990 to 6.82 million tons in 2008.[39]

Although there is a view that this success in 2008 was helped by the falling economy and in fact in 2010 the rate of reduction dropped to 6.8% compared to the benchmark year, Kyoto finally decided in 2010 to add to the target of 40% by 2030 and 60% by 2050 the further ambition of a greater than 80% reduction by 2050. The 2010 Revised Program of Global Warming Counter-measures is an action plan for 10 years from 2011 for achieving these targets, with features including mon-itoring of the policy progress based on indicators for comparison indicating the expected amount of reduc-tion, using three strategies: (1) building a walking/cycling/car-sharing/local-timber-house and eco-build-ing-oriented compact city, (2) a green-economy project promoting small business innovation research, building a smart-community, and creating a Kyoto carbon offset facility, and (3) creating an eco-life-oriented commu-nity fully utilising daylight hours and seasonal produce, and promoting a zero-waste lifestyle. One such development is the recent completion of a 4.2-MW solar power plant on a brown site to provide electricity to 1000 households (Nikkei, 21 July, 2012).

Inspired by hosting COP III, the city government established the Kyoto Local Agenda 21 Forum in 1998 to promote collaboration with citizens, non-profit organisations (NPOs) and businesses with Prof. Naito of Kyoto University, a believer in a natural circular economy (Naito, 2005), as its leader. With the involvement of two major environmental NGOs, *Kiko* Network (Ms M. Asaoka) and Citizens Environmental Foundation (Mr. I. Sugimoto), the Forum has been successful, among other projects, in initiating a green labelling system, which was later adopted by the central government, the Green Power Certification System for renewable energy promotion, and Kyoto Environmen-tal-Management System for small businesses. Together with Kyoto City's energetic staff member, Mr. N. Okada, the Forum has functioned as a bracing network. Three concrete results achieved by the network are discussed in the next section, focusing on the process of network building.

5.4. Citizen participation in Kyoto's action for sustainability

5.4.1. The Kyoto Environmental-Management System (KES)

How to reduce the energy consumption of small businesses and households has been an issue in Kyoto, because while the industrial sector's CO_2 emissions decreased 32.2% in 2004 to the 1990 level, operations of small businesses (over 90% of all businesses in the

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[39] http://www.gkyoto.com/2010/05/21/city-kyoto-co2-2008/.

city) showed a 22% increase and households a 21.3% increase.[40] KES, Kyoto Environmental-Management System Standard, for small and medium-sized companies, works along similar lines to ISO14001, with much lower cost and various kinds of certification to match the needs of smaller companies, with the extra advantage of networking with other KES-certified businesses. KES was developed by a member of Kyoto Agenda 21 Forum, Mr. A. Tsumura, then a member of the Kyoto Industrial Association (a network of 218 companies and six different industry associations) and also of a dedicated group of retired environmental specialists formerly engaged in ISO certification. Born originally of the discussion in the Kyoto Local Agenda 21 Forum in 2001, the KES initiative has spread beyond the city and in 2007 it was established as a non-profit organisation to further expand the operation. The reduction of CO_2 in the year to 31 October 2011 by the participating organisations was 11,920 tons.[41] Of the 3808 registered organisations, 60% organisations are located outside Kyoto Prefecture (County) from Kyushu (southern island) to Hokkaido (December 2011).

A success factor for Kyoto's active business involvement in the Kyoto LA 21 Forum was its recruitment of Mr. Tsumura as the leader of the Forum's business working group; he was the chair of the environmental committee of the Kyoto Industrial Association at that time. The idea of the KES initiative arose from the results of an environmental survey by Kyoto City, in which 80% of small businesses responded that they were not adopting any particular environmental-management system due to lack of know-how information as well as financial resources. Mr Tsumura's strategy for diffusing the KES approach was launching first Kyoto's Green Purchasing Network (GPN), where businesses, citizens, NPOs and local government would be automatically involved, and including the KES system as one of the green procurement standards. The strategy went well and the KES approach is officially included in the 2010 Programme for Global Warming Countermeasures. The increase in the number of KES-certified organisations nationwide within the past 10 years seems due to both bonding, bridging and bracing networks in different localities; Mr Y. Naito of Hotel Granvia Kyoto said that the introduction of KES gave them a substantial cost reduction due to business streamlining (£290,000 in the first year and £140,000 in the second year) and changes

in employees' behaviour and therefore recommended it to other hotels in the chain.

Further building on KES networks, Mr Tsumura and the LA 21 Forum started the KES Community (KESC) initiative in 2007 to provide small companies with opportunities to do 'corporate social responsibility' (CSR) activities for their school districts. This was an innovative idea in two ways. First, it made it easier for small companies to do CSR activities. Several electricity and taxi companies, for example, jointly provide a KESC programme for environmental education in schools including a course on what they can do to contribute to climate change prevention, raising their own awareness of the issue at the same time. Second, the KES network can involve the adults of the school district community through the school children and encourage them to adopt an environment-friendly lifestyle. With local companies, schools and households in the school district linked through CSR activities, it can be said that the KES Community has formed a bridging network with the Kyoto Local Agenda 21 Forum serving as a bracing network strengthening the link with the Kyoto Industrial Association through Mr Tsumura and Kyoto University through Prof. Naito (Fig. 5.3).

5.4.2. The Green Power Certification System

An aim of the Green Power Certification System launched in 2007 by the Kyoto Local Agenda 21 Forum is to promote 'local production for local consumption' of solar power: the Forum sells Green Power Certificates at ¥10 (£0.07) per kilowatt hour to events held by businesses, associations and municipal governments in the Kyoto City area, trading them for carbon dioxide reduction. Proceeds from sales of the certificates will go to the existing 'Sunshine Fund' developed by the Kyoto Green Fund (NPO in Kyoto). The Forum in return authorises companies to use their logo, and the companies use it to improve their corporate image. The Kyoto Green Fund (NPO) has been installing 'Sunshine PV power plants' at local nursery schools and kindergartens since 2001, generating in total 103,000 kWh per year, equivalent to the consumption of 300 households. The NPO was established by a group of housewives inspired by COP III, to promote solar PV power generation. Generally, half the cost of solar PV system installation is provided by government subsidies but shouldering the other half is still too much for nursery schools, and so the housewives decided to create the citizens' fund (Keiko Onishi, Office Manager) and they are happy to see a good result from this: environmentally conscious behaviour in the

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[40] http://www.city.kyoto.lg.jp/kankyo/page/0000029279.html.
[41] http://www.keskyoto.org/about/registration.html.
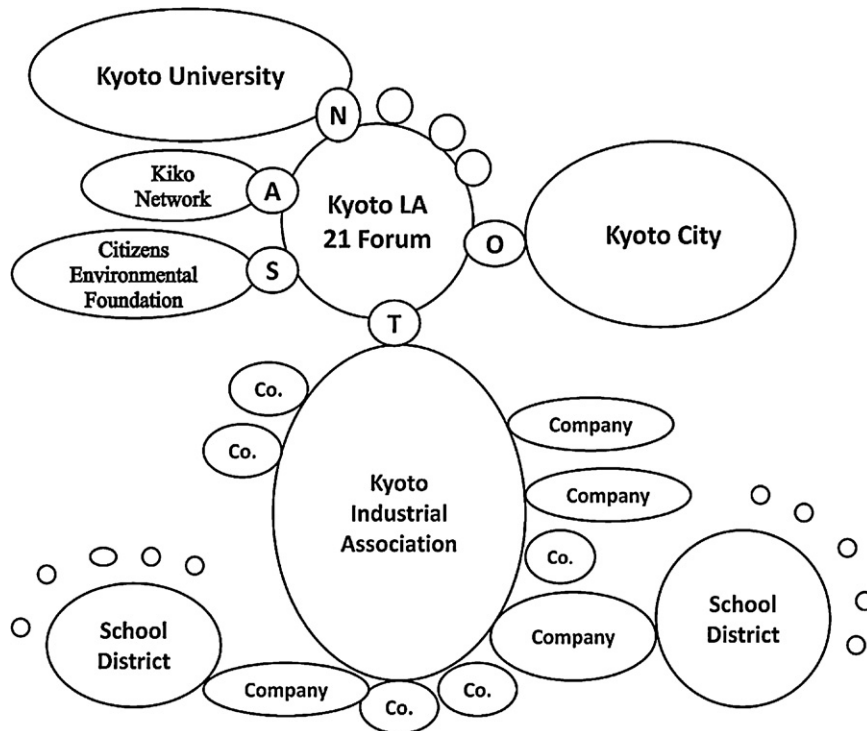
Fig. 5.3. Kyoto KES Community network.

children. Equally importantly, successful networking of housewives, citizens' groups, NPOs, small businesses and local government has developed from the creation of this certification system and the KES Community is playing a valuable role here.

5.4.3. 'Kyoto, a Town for Walking'

Kyoto City campaigned for 'No private cars for Kyoto sightseeing' in 1973 supported by a group of university academics. This did not lead to an increase in use of public transport. The reason is not clear but some say that there was not yet a consensus among the public about private car use (The Kyoto Shinbun, 5 Dec. 2002). The abolition of tramcars in the city in 1978 caused a rapid increase in private car use, which increased bus service delays and made it an unreliable means of transport. The use of public transport continued to decline but since 2002 the bus service has returned to profitability, after many years of huge deficits.[42] With almost 50 million tourists every year, there is still a pressing need for the city to improve the transport system. One scenic area called Sagano Arashiyama

(Fig. 5.4) attracts about 90,000 tourists every autumn. Kyoto City conducted a traffic demand management (TDM) experiment in Arashiyama in 2001. But this was not at all easy. Accepting a TDM experiment could mean reduced income for Arashiyama shops, which earn half their yearly income in the peak tourist season. Young leaders of the shopkeepers' association who were concerned about the ever-increasing traffic congestion and Mr Okada of Kyoto City spent a whole year persuading the older members, using data provided by experts about the number of customers before and during past TDM experiments elsewhere (Mr M. Hosokawa). Mr Okada and his city staff made and distributed an easy-to-understand illustrated leaflet to the community as well as tourists and cars coming to the area to raise awareness about the TDM experiment. As a result it was well-received by residents and shopkeepers and Sagano Arashiyama now implements traffic demand management every year in the autumn season.

Following this success in Arashiyama, Kyoto City conducted a TDM experiment in the city centre in October 2007 after the various departments in the city government finally reached an agreement to carry one out in this most difficult district. There are 14 associations of small shopkeepers in the city centre and they can differ in their views. Some associations

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[42] http://ma21f.jp/cgi-bin/cbbs/cbbs.cgi?mode=one&number=241&type=0&space=0&no=0.

Fig. 5.4. Sagano Arashiyama.

were supporting traffic demand management. Shijo (Fourth street) Shopkeepers Association in the busiest area, for example, had long wanted the city to take action to implement TDM to keep out cars in order to attract more customers. For parking facility owners it was a different story. They demanded various measures to protect their incomes. In other ways too, the process of implementing 'Kyoto, a Town for Walking' is not smooth. Even changing a road from two-way traffic to one-way requires the approval of the Police Department and the Public Safety Commission. This lack of a single authority in charge of designing the city's traffic management system causes delay in dealing with congestion problems (Traffic Policy Dept. Kyoto City). Leaders of neighbourhood associations are the people who facilitate consensus building in each community. With various stakeholders in a community, reaching a consensus is not easy. City officials go to see leaders of shopkeepers associations or neighbourhood associations to gain support; building trust by going to see them in person helps in this (Mr Y. Hasegawa, traffic team, Kyoto LA 21 Forum).

In December 2008, a year after the city-centre TDM experiment, Kyoto City published the results of a survey of the citizens' perception regarding the use of private cars and public transport. The questionnaire was sent to 14,700 Kyoto citizens (one out of every 100) during November 2008 and 5005 responded (34.4%). 93% (strongly think so 29%; think so 51%; maybe so 13%) thought *machizukuri* (community planning) for public transport, walking and cycling was important.[43] This result shows that Kyoto citizens have formed a consensus on the travel part of their lifestyle. The question is how to achieve public participation in the priority measure, 'Kyoto, a Town for Walking', in a city of 1.5 million people. One way the city has been exploring it is through the '100-Person *Machizukuri*

Committee for Kyoto City's Future', established in September 2008 by the new mayor Kadokawa, who assumed office in February.

5.4.4. '100-Person Machizukuri Committee for Kyoto City's Future'

The 100-Person Committee was a 'citizen organisation' where citizens themselves discussed from scratch the directions of the city's *machizukuri* (community planning) for the future and devised policy recommendations with a view to implementing concrete projects based on them. The idea behind it was: "Kyoto citizens have traditionally taken action themselves in creating elementary schools or holding festivals, and this Committee is set up in line with that tradition" (Mayor Kadokawa).[44] During the 20-day advertising of this initiative a large number of people applied and the final number of members was 148. In the first meeting, held on September 2008, 13 teams each with a different agenda emerged including two related to 'Kyoto, a Town for Walking' and one about drastic administrative reform of Kyoto City by a '*Six Samurai*' team. Thereafter, an all-member meeting was held every month and some teams had been holding three or four meetings a month. In the seventh all-member meeting held on April 2009, a member of the '*Six Samurai*' asked the Mayor to clarify the process by which the recommendations they were to submit in 6 months time would be reflected in the city's measures. The question had been in the minds of many members of the Committee because the task imposed on the participants was a demanding one requiring each member to contribute many hours. There was no clear answer from the Mayor on that occasion, but the '100-Person Committee' worked for 3 years until December 2011, further revising or adding new ideas to their action plans and promoting them widely in the Kyoto community as "public-spirited citizens who work for the public

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[43] http://www.city.kyoto.lg.jp/sogo/cmsfiles/contents/0000056/56662/21KS0204.pdf.

[44] http://kyoto-machiza.jp/about/mayor.

sphere'' (*kōkyō wo ninau hito*), a phrase increasingly used in Japanese society as well as in the committee's webpage. At the end of the third year, I asked one 3-year participant informally, whether the efforts of the citizen members had been reflected in the city's policies. Participant M responded 'no' but felt that it had been worth participating because a network of people of similar concerns was achieved. M's team, the environment/landscape team, had explored topics in urban life such as renewable energies, resource-use reduction, bicycle traffic, pedestrian-friendly roads, and urban nature, and established in November 2011 an NPO, Kyoto Townscape Forum, to continue their activities and help communities such as Arashiyama to preserve their area-scape. Other projects produced in the Committee give us an idea of what Kyoto citizens consider needs to be done for Kyoto's sustainability. Another team, Connected Kyoto Project, are also establishing themselves as an NPO to promote a facility called '*Machi no Engawa*' (community's veranda) to provide places for single-member household people to join a coffee-morning, with a playroom for babies, and avoid being isolated. The team consider social isolation leading to social exclusion or solitary deaths of citizens one of the gravest concerns today. Other teams are 'Happy Child-Rearing Juku (a private training school)', which is creating a system called 'Kyoto Daytime Foster-parents', and Traditional Craft Project', which hopes to revitalise the *Yuzen-zome* (a traditional technique of kimono dyeing) industry by linking with its association. Amazingly, all 13 teams are expressing in their final reports their intention to continue working, each maintaining the team network it has built. It was a great idea that Kyoto City provided the participants the 3-year-long occasion to work according to their own ideas and plans with places to gather and overhead funding, and the participants made full use of the networking opportunity the city government provided. There also seems to have been increased interaction between the various project members and some individual city staff members to work together. However, it would have been much better in building a trust relationship between them if the participants had been given a clear vision at the outset how their 'products' would be reflected in the city's policy measures.

Kyoto City established the 'Citizen Participation Promotion Ordinance' in 2003. The ordinance states that the term 'participation' means citizens take part in city government and its *machizukuri* (community planning), and 'collaboration' means that the city government and the citizens cooperate with and support each other, on a basis of equality, to play their respective roles. However, the ordinance is limited in the areas in which citizens are invited to participate, compared to more advanced citizen participation ordinances of other cities; citizens of Kyoto can participate in drafting of plans and designing systems but not in the drafting of ordinances, charters, or declarations.[45] However, it is also true that only four of 11 cities with a population larger than one million have formulated a citizen participation ordinance or a local community autonomy ordinance. Sapporo City with 1.9 million people in Hokkaido seems to be most advanced, among the four, in relation to the ordinances' provisions on citizen participation. Sapporo established in 2003 the ''Citizen Conference to Consider Citizens-Active Local Autonomy'', composed of eight city selected and eight publicly recruited members, and in 2004 it made recommendations to the mayor, suggesting the need to establish a formal citizen proposal system. The state of the matter at present is that the system is not set up yet, although the city's ordinance to develop local autonomy with citizens was established. The city government however is endeavouring to prepare staff members for the future by giving them training sessions and providing a checklist for enhancing ''citizen-active local autonomy checklist'', which has to be reviewed by the directors in charge.

If Kyoto's citizen participation were to be strengthened in the institutional framework by clarifying the system of how the results will be considered to reflect in the city policy, the 100-Person *Machizukuri* Committee could turn out to be an innovative model of citizen participation. The Committee clearly showed that there are citizens who are deeply interested in the city government's *machizukuri* (community planning) processes and are taking action by becoming part of them. However, the case is not yet sufficiently persuasive to say that community planning in Kyoto City is driven bottom–up. In the next section, two cases of neighbourhood *machizukuri* in Kyoto are explored.

5.5. Kyoto's machizukuri at neighbourhood level

5.5.1. The case of Aneya koji Machizukuri

Aneya Lane is a narrow 700-m-long street running east–west in the centre of Kyoto. The houses of families

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[45] Reference: An excel file table of citizen participation ordinances made by Judicial Affairs Support Division, Hokkaido Town Village Association (http://houmu.h-chosonkai.gr.jp/houmutoha/houmuto-ha.htm).
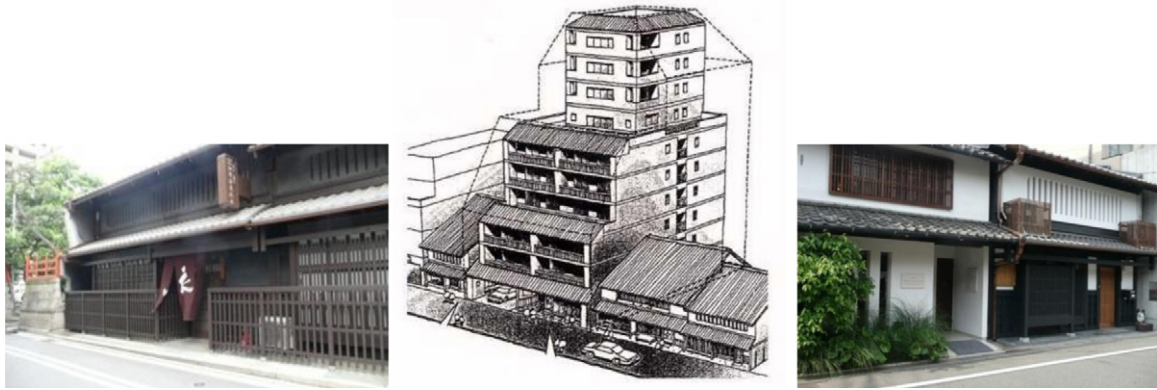
Fig. 5.5. Urbanex Sanjo (http://web.kyoto-inet.or.jp/org/gakugei/judi/forum/forum17/17f006.htm) and neighbouring renovated townhouses with Kyoto's traditional lattice doors and plastered lattice windows on the second floor for ventilation and lighting.

which have lived in the neighbourhood for three generations or even longer stand alongside traditional shops. This neighbourhood is an example of a campaign against the planned construction of a high-rise in the neighbourhood rousing the residents to *machizukuri* activities.[46] The main campaigning organisation, *Aneya kōji wo Kangaeru Kai* (the Aneyakoji society), was established in October 1995, just 3 months after *Urbanex Sanjo*, an Osaka Gas group company, announced a plan for construction of an 11-storey, 21 m-high condominium on a lot which they owned. The residents of the surrounding area were against the idea of this public-interest company prioritising company profits at the cost of their living environment and thought Osaka Gas should make a construction plan which would be accepted by the neighbouring communities. After a year-long campaign against it, the Aneyakoji society was notified by the lot owner, *Urbanex Sanjo*, of their complete withdrawal of the planned construction. Two years later in 1998, Kyoto City *Keikan* (urban landscape) *Machizukuri* Centre, a fully subsidised non-profit foundation of Kyoto City, not wanting such a large 'commercial area' site to lie unused, started mediation between *Urbanex Sanjo* and the local community. The 'Land Use Examination Committee for Local Symbiosis' was established in January 1999 to start joint discussions, with the Aneyakoji society acting as an intermediary between the company and neighbourhood associations in the area. The committee held 17 meetings over the next 2 years to finally map out the basic planning of the land use in December 2000. As a result, with the building

plan downsized to eight floors from the initially planned 11 floors, the final building completed in 2002 has an appearance acceptable to the area, features space design which includes a Kyoto traditional small garden within the building, and offers a public space for local new and old residents to mix (Fig. 5.5). By this time, the membership of the Aneyakoji society had doubled to 150 households including several neighbourhood associations and citizens' groups, and had become a parallel force to work collaboratively with local government to arouse collective action. The planning was finally awarded the 'Western Japan *Machizukuri* Award' of the Japanese City Planning Association of Japan in 2002.

A major achievement of the Aneyakoji society during the discussion process was the *Kyo Machiya* (traditional townhouses) Refurbishment Project, with two-thirds of the expense met by Kyoto City and the central government; the Aneyakoji society worked with groups of professionals to generate ideas for neighbourhood landscape improvement (Mr S. Taniguchi, Secretary).

Another was setting out the Aneyakoji society's own guidelines for maintaining the neighbourhood-scape. An idea came out of a coincidental discovery of the community's *shikimoku* rules of the Edo era (1603–1868) in an old household repository. In the Edo Era, public services for everyday living-space management were not provided by the local authority, and each neighbourhood community was responsible for providing cleaning, fire prevention, and other services. Kyoto neighbourhood communities were mainly managed by merchants who each owned a piece of land and a house and an elected senior neighbourhood-community member. The *Machi Shikimoku* Rules show that there was a custom of self-control and mutual restraint with

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[46] See Brumann (2006, 2012) regarding campaigns against high-rise development in Kyoto.
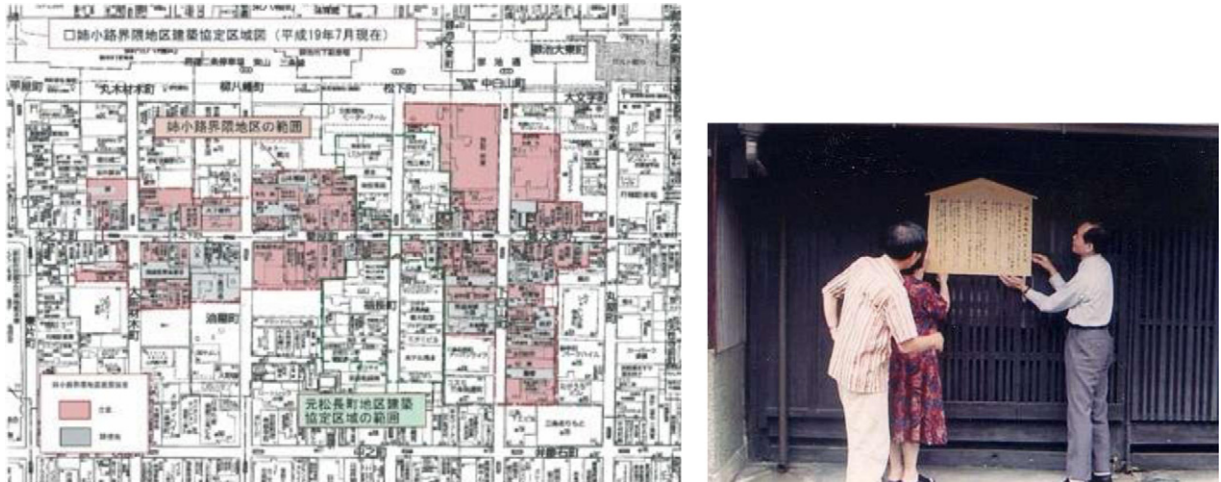
Fig. 5.6. The dark (pink) shaded area is the building agreement area of Aneya Lane covering 200,000 m². The light (green) shading indicates non-agreeing households. The area outlined between two dark (pink) shaded areas is the Matsunaga Machi agreement area. Right photo: Machi Shikimoku Rules of the Society of Aneya Lane put-up on a wooden signboard as was done in earlier eras (http://web.kyoto-inet.or.jp/org/gakugei/judi/forum/forum17/17f006.htm). (For interpretation of the references to color in this figure legend, the reader is referred to the web version of the article.)

regard to the landscape of their local community as early as the 17th century (Tani, N. Osaka City University.). This suggests that rule-making and norm building among the community residents had been successfully maintained in Aneyakoji Street until recent decades. Based on the old *shikimoku* rule documents, the Aneyakoji society created their present-day 'Aneyakoji *Shikimoku* (community rules)' in April 2000, a year after the success of the partnership planning of the new tall building and put them up on a wooden signboard as was done in earlier eras, to catch people's attention (Fig. 5.6).

Establishing two building agreements, one in Aneya Street neighbourhood and the other in Matsunaga *Machi*, based upon the principle of the *shikimoku* community rules was the Society's next achievement. They submitted to the city their proposal for the Aneyakoji Neighbourhood Area Building Agreement, which was contracted with 13 neighbourhood associations with the agreement 'seal' of 81 households covering an area of 200,000 m² in the centre of the City (Fig. 5.6). This led to a subsidy from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) in 2004 for a 10-year landscape project. Their priority goal now is upgrading the 'building agreements' expiring in 3 years to a District Plan, which will be a formalised neighbourhood land use plan. To prepare for its introduction they have conducted a survey on the preferences of residents regarding the direction of *machizukuri* (neighbourhood planning).

Aneyakoji wo Kangaeru Kai (the Aneyakoji society) started as a bridging network. However, for the type of network that can extend easily to achieve collective action for a common goal, discursive processes of exchanging views about what they want to protect and maintain, for example, are indispensable. The Aneyakoji society did this successfully by looking into area history that could be shared among the members and discussing a vision for the future jointly. Gradually building up solidarity, they finally made their own governance rules – the *shikimoku* rules and building agreements, which made the network stronger. It can be said that members of the Aneyakoji society have built-up a bottom–up *machizukuri*, gradually empowering themselves with operational and designing ability through working with professionals and obtaining knowledge.

5.5.2. Machizukuri along Sanjo Street

Sanjo *Machizukuri* (neighbourhood planning) started in the 1990s. The area, once the centre of Kyoto's commerce (Fig. 5.7), had a run-down lacklustre look. Over the period of 20 years Sanjo's *machizukuri* has transformed it from a declining wholesale area to one of the most attractive places in Kyoto where people gather for shopping, dining, information, and new ideas.

In 1993 the whole of Kyoto was busy preparing for the 1200th anniversary of the transfer of the capital to Kyoto from Nara. The Kyoto Society of Architects and Building Engineers (Kyoto A&BE), a branch of a nationwide architects' federation, was looking for a place to do a commemorative *machizukuri* voluntary project. The

Fig. 5.7. Print: 'Sanjo Bridge in Tokaido-gojusantsugi' (53rd post-town of the Tokaido), 17th century Ukiyoe wood-block print by Hiroshige Utagawa (http://artofjpn2.blogspot.com/2007/12/theme-day-of-december-2007-bridge.html), cited from a book, Tokaido-Gojusantsugi Fuukei Zokuga, Iwanami Shoten, 1918.

organisation supports *machizukuri* activities by providing advice; its purpose is to become a hub of information and raise the quality of architects.[47] After a year-long survey, it held a *machizukuri* round table with Sanjo's local people to converge visions for Sanjo *machizukuri*. In addition, through study sessions, presidents of neighbourhood associations gradually began to cooperate in persuading their resident members to work with Kyoto A&BE. This made a great difference, opening up the channels to neighbourhood associations. In October 1994, the 1200th anniversary year, Kyoto A&BE proposed ideas for rejuvenating Sanjo Street to the seven neighbourhood associations. In their 'Sanjo Street Neighbourhood Renaissance', they made suggestions how the landscape of Sanjo Street could be improved including ways of changing it to 'pedestrian-car co-existence roads' with a flat surface (without raised footways for pedestrians). Fortunately, Kyoto Society of A&BE gained information that Kyoto City was providing grants under its 'Landscape Design Promotion Project', to subsidise projects to remodel roads for safe pedestrian-car use. In 1995 on the advice of Kyoto A&BE, the seven neighbourhood associations established an organisation, 'Kyo no (Kyoto's) Sanjo *Machizukuri* Council', a cross-boundary *machizukuri* council, to receive the grants. The seven associations produced ¥500,000 (£3900) for the road improvement, and the city and the state each contributed the same amount for a total of ¥1,500,000 (£11,600) in addition to ¥450,000 (£3500) from A&BE's *machizukuri* fund.

Involving locals in activities would not have been possible without the efforts of local people themselves.

Every neighbourhood association (NA) has its own long-established way of doing everything including collecting their annual fees, and therefore coordination to do things jointly requires patience (Mr S. Ido, Kyo no Sanjo *Machizukuri* Council). They organised symposiums, study tours to other cities, and a Sanjo *Mikoshi* (portable shrine) carrying festival, which helped the slow process of building a new community including the seven neighbourhood associations. With the help of students of Kyoto Institute of Technology, they made an illustrated map, 'Sanjo Map, New and Old' by talking to old people and listening to their stories. Kyoto A&BE's current liaison, Ms. I. Naito, helps old and new citizens mix by holding a '*machizukuri* café' (coffee-morning) regularly and broadcasting *Machizukuri* Radio Café so that people can learn and think together about community issues. Within 3 years, in 1998, Sanjo began to reshape the 8-m-wide street to create the new 'pedestrian-car co-existence road'. Completion of this work in 2001, together with the opening of a new shopping centre, *Shinpukan* (new wind mansion), provided new space in the new Sanjo Street, and started to bring in new people and stores, giving it a new character.

Next, 'producers' associated with the Kyo no Sanjo *Machizukuri* Council started to implement their ideas through Ms. S. Oshima, another architect who belongs to *Machibura* (local strollers) Club, a citizens' group comprised of professionals – artists, architects, producers, academics, and shop or company representatives – of all ages. One project, conducted by the 'Local Strollers', was the 'Sanjo Light-up Project' of 2004. What the 'Local Strollers' wanted to do was not a simple illumination event. They tried ways of involving local people, which is widely thought to be an important

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[47] http://www.kenchikushikai.or.jp/.

focus for any *machizukuri* activity. As light decoration they lit up windows of shops in the street, walls of *machiya* (traditional townhouse) buildings, the surface of the Kamo River as screens onto which to project films, as well as illuminating five landmark buildings. This involved talking with shopkeepers, residents, and other local people, to gain their cooperation. Fortunately, in 2004 the 'Sanjo Light-up Project' was selected by the Cabinet Secretariat as a model project (one of 162) for 'City Regeneration Model Research'.[48] The model projects required as entry conditions collaboration between people in different sectors such as shopkeepers and architects, and the use of 'soft' *machizukuri* strategies. This collaborative project with 180 volunteers was a great success bringing 30,000 people into the Sanjo area.

The success of events however does not readily resolve *machizukuri* issues. With varied shops (fashionable, traditional, and ethnic), and people of different kinds (shop owners, tenant managers, new condominium residents, and old community residents), Sanjo *Machizukuri* needs further efforts to encourage people of various backgrounds to mix on a daily basis and make a new community, and this is considered by the Committee as the base or first step for the newly building community to be able to deal with any future issues for sustainability. With the support of Mr Arimoto, the president of the *Machizukuri* Council, a retiree from a trading house who believes in the importance of network building, a wide variety of organisations have come to work with Kyo no Sanjo *Machizukuri* Council in the past 15 years – 'Refugees Now', 'University Consortium Kyoto', 'Kyoto Culture Museum', and NPOs, among others. Kyo no Sanjo *Machizukuri* Council has been playing the role of bracing social capital network, connecting bonding and bridging networks and producing results from collective action: regenerating Sanjo Street as one of the most popular areas in Kyoto where people come to ''know what's new''.

Kyo no Sanjo is an example of *machizukuri* which has focused on the economic and social regeneration of Sanjo Street; the community's environmental problems have so far been dealt with by each neighbourhood association. There has not been much collaboration with local authorities except for receiving grants by applying

for them. An issue for the city government is how to work together with these newly emerging citizens' networks on realising the city's sustainability goals.

5.6. Conclusion

Kyoto is a place which displays both traditional Japan and a progressive spirit deriving from pride in its thousand-year history as the country's capital until the 19th century. These conservative as well as pioneering traits are embodied in the availability of two types of active social capital networks: strong bonding networks existing even in the centre of a big city, and bridging social capital networks increasingly being built between groups of experts as shown in the Aneyakoji *machizukuri* and Sanjo Street's *machizukuri*. Further, as a new development, bracing social capital networks are beginning to form; the ones explored here are Kyoto Agenda 21 Forum and the Kyo no Sanjo *Machizukuri* Committee.

Measures for achieving sustainable development (SD) at city level are well planned by the city government, which is endeavouring to live up to the public's expectation of the 1997 COP 3 host government, and are making steady progress. What is not quite clear yet though is whether the city government's SD goals, such as 'Kyoto, a Town for Walking', one of Kyoto' priority goals for sustainability, are shared by community level *machizukuri* participants. It would seem that the city government needs to make further efforts to involve potential bracing social capital generators at neighbourhood level in strategy development in order to achieve 'Kyoto, a Town for Walking' in the centre of the city, for example. The city government introduced a new initiative to increase citizen participation at city level, the '100-Person *Machizukuri* Committee for Kyoto City's Future'. How much of this initiative's promise will be fulfilled remains to be seen but there is real enthusiasm for it among citizens. For these genuine citizens' efforts to continue, clarification of the mechanism by which these efforts will be reflected in the city's policy is acutely needed.

6. A quantitative investigation across the three cities

Observers have suggested that developing local action is essential to achieve sustainable development and it has also been suggested that social capital may help in attaining the goal. This chapter investigates quantitatively whether there is in fact a positive relationship between social capital accumulation (SC)

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[48] The total amount of all the grants under the same name in the previous a year was ¥1 billion (£6 million) (http://www.kantei.go.jp/jp/singi/tosisaisei/siryou/040414bosyuu.html; http://www.mlit.go.jp/kisha/kisha04/02/020630/04.pdf).

and sustainability achievement (SD). Based on the thinking that social capital itself is not easy to measure but can be measured indirectly based on the outcomes generated by self-organising processes that it facilitates (Ostrom, 1999, p. 181), social capital in the quantitative examination was defined as the social capital accumulation achieved through citizens' participation in the development of city projects. In other words, the quantitative part of this research examined how many phases of a project's development (planning, decision-making, implementing and monitoring) citizens were involved in (Criteria 5), how many types of actors were involved (NGOs, business, citizens' groups, local government) (Cr. 6), how long these projects had continued (Cr. 7), and how many formal frameworks (ordinances, master environmental plan, etc.) were created in collaboration with citizens (Cr. 8). SD achievement was examined based on whether the city has a SD vision statement or action plan (Cr. 1), whether the city's SD's three-dimensional focus is well balanced (Cr. 2), whether the city shows concern for ecological limits/sustainable resource use in its project design (Cr. 3), and finally the extent to which the city's project achieved the SD goal (Cr. 4). It is premised here that SD represents 'sustainable development excluding the element of citizen participation and social capital accumulation' in order to avoid overlap in the definition of SC and SD. The results of the quantitative investigation of the three cities follow.

6.1. Takashima City's scores for SD progress and SC accumulation

Takashima's SD vision, 'Wa no Sato', advocates "nature's no-waste economy", with 'wa' expressing 'circular' as in Ekins' (1992, pp. 50–51) "circular natural economy" and 'sato' referring to 'home village'. Takashima's 'back to a recycling society on the land' slogan, symbolising its sustainable future, suggests a community in which local people strive and cooperate to preserve the rich natural environment in a recycling-oriented manner.

Scoring for Criteria 3–8 was done using as a base the city's 'project evaluation report' published in 2009 by the local government. Takashima City conducts a questionnaire survey every year and produces an appraisal of the projects based upon the results. The questionnaire asks the citizens for two types of evaluation (degree of satisfaction and also of necessity) concerning each project on a scale from 1 (the lowest) to 5 (the highest). For example, the average evaluation of all the respondents for the level of satisfaction with the

'Grants for Communities' project was 3.08 and the level of necessity was 3.25. The average of these two values is 3.17. I used this average value as the basis for the city's SD achievement score for the project (Cr. 4), converting the value on a scale from 1 to 4, which is the scale used in the present research. The SD achievement score for the project, 2.5 on this scale, is put in Table 6.2 (see Appendix A), which displays the score of Takashima's 49 individual projects, together with a brief note of the project content. If a project however contributes in two areas, e.g. economic and environmental sustainability, it obtains points from both areas based on my evaluation: an example will be explained in Section 6.2. These extra points acknowledge the enhanced efficiency of resource use resulting from the city taking an integrated approach for achieving sustainability. The scores for the level of citizen participation (Criteria 5–7) were determined based on the published content of projects, telephone interviews with city staff members and/or citizen group members, and information available from media or other sources.

Table 6.2 also shows the three kinds of SC indicators (Cr. 5, Cr. 6, and Cr. 7), and the 'correlation coefficients' between the score of SD achievement and the score in each of these three indicators. The correlation coefficient between the SD achievement and the SC average (the average of the scores of Cr. 5, Cr. 6, and Cr. 7) is 0.46. This does not indicate a strong correlation, but nonetheless shows that there is a positive correlation. In order to make a more rigorous statistical inference regarding this positive relationship between SC and SD, a regression analysis was conducted; Fig. 6.1 provides the information regarding the city's projects and gives an idea of the performance of Takashima City as a whole, one dot indicating the performance of each project. The 49 dots become superimposed and thus look fewer than they should, due to scale used to express the quantitative appraisal of the projects limiting the number of possible numerical values for project scores. The regression analysis on a project-by-project basis displayed in Fig. 6.1 indicates that there is a positive correlation between SC and SD, with the positive slope of 0.40 and with the 't-statistic' at 3.56, indicating SC has a statistically significant positive relationship with SD at a 95% confidence interval, although R^2, which represents the explanatory power of SC for SD, seems to be small at 0.21.

In addition to the overall relationship between SC and SD, the component of SC accumulation that has the largest impact on the SD can be seen in Table 6.2. Three kinds of correlation coefficients are shown in the table, between the level of SD progress and the level of each of
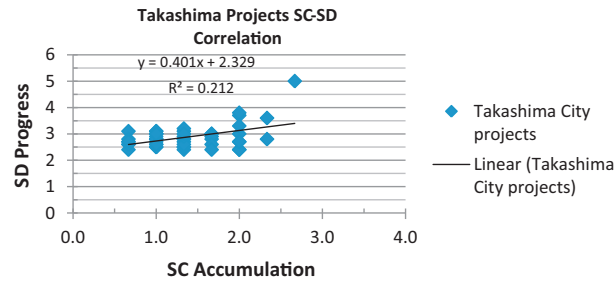
Fig. 6.1. Takashima projects SC–SD correlation.

participation (Cr. 5), stakeholder involvement (Cr. 6), and continuity (Cr. 7). All these three correlation coefficients are smaller than that between SD and the average SC, and none of them are significant. This may suggest that SD progress in Takashima City was achieved not so much through collaboration with citizens but rather led by the local government. Of these three, however, correlation with the 'level of participation' (Cr. 5) is the highest; this may be because in Takashima, where the level of public participation is generally low, projects which have a higher level of participation because of the involvement of neighbourhood associations (NAs) may enjoy higher SD impacts than others; the involvement of NAs is likely to facilitate the coordination of these projects to meet the community's needs. These results match with the qualitative findings discussed in Chapter 2: the relationships between local government and community in Takashima tended to be those of 'corporatism', and other than that, mixing of various networks did not happen.

To know the overall SC and SD performance of Takashima, the total score of the SD criteria (Cr. 1, Cr. 2, Cr. 3, and SD Quality of Cr. 4) and the total score of the SC criteria (Cr. 5, Cr. 6, Cr. 7, and Framework-Creation Quality of Cr. 8) were used. The SD Quantity of Cr. 4 and the F-Creation Quantity of Cr. 8, both of which divide the sum of all projects' points by population, were not included in the total here, to make the comparison with cities with a large difference in population size possible. The results are shown in Table 6.5A (Scores for SD Progress) and Table 6.5B (participation/social capital accumulation). Table 6.5A shows that the level of three-dimensional balance (Cr. 2) of Takashima City's projects is high at 0.8 out of 1 full point, meaning that the number of economic, environmental and social projects is well balanced, and the level of SD goal achievement of projects (Cr. 4) is fairly high at 0.72 out of 1 full point, although the lowest among the three cities.

These good figures seem to show that the policy initiative of '*Wa no Sato*', which aims to build a recycling-oriented 'home town', applying the policy in the five areas of tourism, industry, environment, food and care, has been relatively successful. The projects which embody the '*Wa no Sato*' concept include 'Heat supply from wood chips' (producing and selling the heat from the city's production facility to a nearby swimming pool and a nursery), 'promotion of farming restoring the biodiversity of living things in farmland', the 'Takashima Environmental-management System', and the creation of the 'Takashima vision for a sustainable future'. Each of these projects has an environmentally innovative aspect and when they are fully implemented, especially the 2030 vision, they should help in achieving a sustainable future.

Fig. 6.4, which compares the total of SC criteria scores and that of SD criteria scores of the three cities, shows the SC–SD plot of Takashima, (1.58, 2.68), located between those of Yasu and Kyoto. The first figure in the parentheses shows the total of SC criteria scores, and the second figure, the level of SD progress. Although bridging social capital networks have not developed much yet in Takashima, place-based bonding networks and their traditional corporatist-type relationship with the local government may have produced this rather high SD total score.

6.2. Yasu City's scores for SD progress and SC accumulation

Table 6.5A shows that Yasu obtained good scores in four SD criteria: a full point for Commitment to SD (Cr. 1) and for the level of three-dimensional balance (Cr. 2), gaining a comparatively high 0.36 points for concern for ecological and natural resource limits (Cr. 3), and 0.80 out of 1 full point for the achievement in sustainability (Cr. 4). The full score for SC Criterion 8, 'Framework-Creation Quality', which was gained by formulating four kinds of institutional framework involving the

Yasu City Projects SC-SD Correlation

$y = 0.957x + 0.95$
$R^2 = 0.466$

◆ Yasu City projects

— Linear (Yasu City projects)
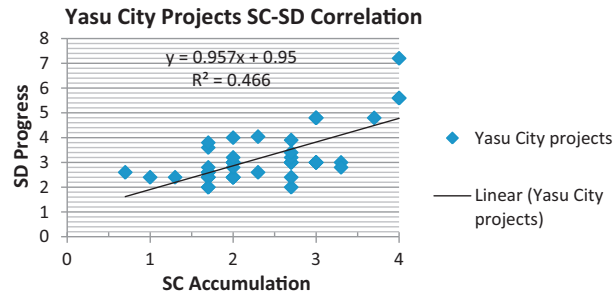
Fig. 6.2. Yasu projects SC–SD correlation.

citizens at all four stages (planning, decision-making, implementing and monitoring) substantiates the city's slogan, '*machizukuri* by everyone'. Yasu is the clear leader in Fig. 6.4, which shows its SC–SD plot, (2.78, 3.16), together with those of Takashima and Kyoto.

Table 6.3 (see Appendix B) shows the scores of 47 individual projects in Yasu City on the SD achievement indicator (Cr. 4) and the three kinds of SC indicators (Cr. 5, Cr. 6, and Cr. 7), and the correlation coefficients between the SD achievement and each of these three indicators, as well as between the SD achievement and the SC average. The correlation coefficient between the SD achievement and the SC average is 0.68, which suggests a relatively strong positive correlation between the two variables. The regression analysis in Fig. 6.2 supports this with its positive slope of 0.96 and the '*t*-statistic' 6.3. This shows a statistically significant positive relationship at a 95% confidence interval, with the R^2 figure 0.47.

The largest of the three correlation coefficients between the SD achievement and a SC indicator is 0.75, that with the 'level of continuity' (Cr. 7), followed by 0.55 with 'stakeholder involvement' (Cr. 6), and 0.48 with the 'level of participation' (Cr. 5). Yasu's case may suggest that preparing an environment that helps projects to continue for a long time is more effective than raising the level of participation in different stages of a project cycle or of different stakeholders. This is perhaps because projects which have continued for a long time may have required involvement of various stakeholders and a larger number of city staff members over an extended period of time, compared to those projects which have had a higher level of participation, but have involved people over a limited period of time.

Fig. 6.2 provides the SC–SD information in terms of the city's projects, one dot indicating the performance of each project. The project that scored 7.2 points for SD and 4 full points for SC is one of Yasu City's measures for global warming prevention, which focus on increasing the use of renewable energy to reduce

CO_2 emission. This project promoted the 'Biomass Town', and 'Easy and Fun Eco-Try' initiatives to popularise an energy-saving lifestyle, and led to the birth of the collaborative 'Smile Market' project. Project scoring of this research is devised to give due weight to an integrated approach for achieving sustainable development, and therefore, projects obtain extra points if they produce concurrently two or all three of environmentally, economically or socially good impacts. If a project has helped to raise the awareness of many people about sustainability, it obtains extra social points, an extra one half or one-third of the original points in the city's assessment according to the extent of the impact as observed in the case studies. The initiatives by means of which this project obtained these SD and SC scores were as follows.

The 'Biomass Town' initiative has not only expanded the use of biomass (sewage sludge, scrap wood, raw waste, algae, etc.), but also explored unused biomass resources (bamboo, timber offcuts, rice straw, and husks of wheat, soybeans and rice, etc.) and is rehabilitating the forest industry. The 'Easy and Fun Eco-Try' initiative is a Yasu-version ISO for households and offices, in which citizens are expected to choose one out of five areas (electricity, water, transport, waste reduction, and 'green purchase') and adopt an environmentally friendly lifestyle for a year by following behaviours suggested in a checksheet. Taking part in this initiative as a team of two persons or more is a condition for contracting this 'voluntary agreement' with the city; the city will pay a 'monitoring payment' of ¥500 (£3.9) per person at the end of 12 months. Table 6.1 shows the number of participants in the initiative from 2006 to 2008. During these years, the number of participants was the largest with citizens' groups, showing their more proactive stance towards the initiative compared with NAs and businesses. The monitoring payment served as an incentive to take part in the initiative and was often spent to cover socialising expenses for the team of participants: an example of an

Table 6.1
Number of participants in Yasu-version ISO, 'Easy and Fun Eco-Try' initiative.

Year	2006		2007		2008	
Number	Groups	Participants	Groups	Participants	Groups	Participants
NAs	16	217	5	51	7	59
Citizens' groups	19	500	33	1377	33	1342
Businesses	10	231	27	365	17	259
Total	45	948	65	1795	57	1660

Source: 3.

important element of Yasu's initiatives, "fun to do and even modestly money-making" (Mr. Endo, *Machizukuri* Promotion Official). All these activities in relation to this 'Biomass Town'/'Eco-Try' project promoted efficient resource use, forest industry rehabilitation, and raised awareness encouraging an environmentally conscious-life style. The score for the 'Biomass Town'/'Easy and Fun Eco-Try' project was decided as follows. The city's evaluation of the project was 4 on a scale of 1–5 (highest). The present research converted this score to 3.2 on a scale of 1–4. The score for the project was calculated as:

$$3.2 \text{(for energy saving through expansion of renewable}$$
$$\text{energy use)} + 2.4 \text{(for forestry industry promotion}$$
$$\text{and expansion of local produce production)}$$
$$+ 1.6 \text{(for encouraging an energy-saving lifestyle}$$
$$\text{for households and offices)} = 7.2$$

Yasu City's case showed that there is a relatively strong positive correlation between projects' SC accumulation and SD progress. However, 0.47 for R^2, which indicates the percentage of the variation in SD achievement explained by the variation in SC accumulation, suggests that citizen participation in project development explains less than half of the variation in SD achievement scores, and that this is not the only factor that explains Yasu's high achievement level in SD.

Qualitative investigation of Yasu's networks seems to give us another potential factor for explaining Yasu's high level of sustainability achievement. Yasu citizens are developing social relationships for many different purposes and they have certainly expanded their social activities since the 1970s, possibly influenced by the influx of new citizens due to the entry of IT companies. According to the interviewees mentioned earlier, successful citizen involvement in Yasu's projects, such as the 'Smile Yasu Market' or 'Buying and Selling Without Increasing Waste', suggests that various kinds

of networking have taken place. 'Buying and Selling Without Increasing Waste', for example, involves collaboration with supermarkets, schools, nursing homes, and staff members of Shiga Prefecture as well as Yasu City, and there is a possibility that the small project that the citizen members created may influence supermarkets' sales behaviour to reduce packaging waste and the good example may help the prefecture to support similar projects in other localities. In both projects, the project teams have expedited information flows and goal sharing among various communities and may have made the goal achievement greater as a result of involving a larger number of people. In 'Smile Yasu Market', some citizens helped promote solar energy power generation, some helped connect local producers through vegetable cooperatives, some consumer study group members created new local products to sell at the Market, and some sold the products to schools, etc. In the 'Buying and Selling Without Increasing Waste' Basic Environmental Plan project, some helped disseminate the knowledge of how to reduce waste through school children. This suggests that in Yasu social capital has been operating between communities and sometimes across sectors and levels, generating bracing social capital. This scale of social network connection might not have been captured by the R^2. It seems that a way to capture social capital accumulation created through bracing networks, which was shown in the present research to be important to achieve concrete results, needs to be devised to examine how citizen participation/social capital accumulation affects sustainability achievement.

6.3. Kyoto City's Scores for SD progress and SC accumulation

Kyoto is a city of 1.5 million people and therefore achieving citizen participation is not simple. An interviewee who used to work in Kyoto suggested that he enjoys doing *machizukuri* activities in Yasu because he can see the result sooner there; the difference in city

Table 6.5A
Scores of Takashima, Yasu, and Kyoto for SD progress.

Evaluation criteria for achieving sustainability	Categories	The city's score for each criterion	Takashima City's Score	Yasu City's Score	Kyoto City's Score
Criterion 1: commitment to SD	City obtains 0.5 points if it has a vision statement or an action plan	Score1 = (0.5 or 0) + (0.5 or 0)	2005 Basic Environmental Ordinance; 2007 Environmental Plan Score 1 = 1	2006 Environmental Basic Plan; 2006 Comprehensive Plan Score 1 = 1	2004 Global Warming Counter-Measures Ordinance Score 1 = 1
Criterion 2: level of three-dimensional balance of projects as classified by the cities	Pe: % of Projects for economic sustainability, Ps: % of Projects for Social Sustainability, Pv: % of Projects for Environmental Sustainability	L = MIN[Pe,Ps,Pv] Score2 = 0.4 points; if $15\% \leq L < 20\%$; Score 2 = 0.6 points; if $20 \leq L < 25\%$; Score 2 = 0.8 points; if $25 \leq L < 30\%$; Score 2 = 1 points; if $30\% \leq L$;	Pe 30%; Pa 45%; Pv 25% Score 2 = 0.8	Pe 28%; Ps 39%; Pv 33% Score 2 = 1	Pe 38%; Ps 34%; Pv 23% Score 2 = 0.6
Criterion 3: concern for ecological and natural resource limits	Project obtains 2 points if it has ecological limits/sustainable management of resources	Score 3 = (T/MAX) T: sum of all projects' points; MAX = 4 × (Number of Projects)	32/(4 × 49) = 0.16 Score 3 = 0.16	68/(4 × 47) = 0.36 Score 3 = 0.36	56/(4 × 126)= Score 3 = 0.11
Criterion 4: achievement in sustainability	Perceived outcomes: small, 2 points medium, 3 points large, 4 points	Project SD Quality = (T/MAX)	SD Quality = 141/(4 × 49) = 0.72	SD Quality = 151/(4 × 47) = 0.80	SD Quality = 381.6/(4 × 126) = 0.76
		Project SD Quantity = (T/pop) × (10^2 for city) Pop = Population	SD Quantity = (141/54,309) × 100 = 0.26	SD Quantity = (151/50,526) × 100 = 0.31	SD Quantity = (381.6/1,466,042) × 100 = 0.03

size is ''like the difference between an elephant and a mouse''. Mr Endo of Yasu City also mentioned that its population of about 50,000 people is the 'size where you can see the faces of citizens'. Considering this difference in city size, Kyoto's SC–SD plot in Fig. 6.4 (1.30, 2.47), is fairly good in comparison with Takashima and Yasu. Kyoto's detailed scores are as follows.

In Table 6.5A, showing Kyoto's scores for SD progress on the far right, commitment to SD (Cr. 1) 1 full point, the level of three-dimensional balance (Cr. 2) 0.6, which is lower than those of Takashima (0.8) and Yasu (1.0), and achievement in SD progress (Cr. 4) 0.76, compared to Takashima's 0.72 and Yasu's 0.80, are good, although the concern for ecological and natural resource limits 0.11 (Cr. 3) shows an even lower score than Takashima's 0.16 and Yasu's 0.36.

Table 6.5B shows different levels of citizen participation in the three cities. Kyoto's score is 0.28 for project planning, decision-making, implementation and monitoring (Cr. 5), for which Yasu's is much higher at 0.58, and Takashima's the lowest at 0.22. Kyoto's score of 0.27 for the level of stakeholder involvement (Cr. 6) is again much lower than Yasu's 0.66 while

Takashima's is 0.39. Kyoto's score is 0.25 for the level of project continuity (Cr. 7), for which Yasu has 0.54 followed by Takashima's 0.41. The largest difference is in the collaborative institutional framework creation (Cr. 8). While Kyoto's score for this was 0.50, and Takashima's is slightly better at 0.56, Yasu had 1.0, the maximum. This 0.50 Kyoto score for Cr. 8, 'Framework-Creation Quality' was arrived at based upon the information provided by the city government regarding the level of participation in formulating five kinds of institutional framework – Basic Environmental Ordinance, Basic Environmental Plan, 2004 Ordinance on Global Warming Prevention, Global Warming Prevention Plan, and Kyoto's Local Agenda 21:

The ordinances contain no provisions that require citizen participation in implementation and monitoring; however, there is a provision requiring reviewing in the Ordinance on Global Warming Prevention.

There are processes for progress management for the Basic Environmental Plan and the Global Warming Prevention Plan; publication of annual reports and appraisal by the city's Environmental Deliberative Council, which includes citizens, are required as part of them.

Table 6.5B
Scores of Takashima, Yasu, and Kyoto for participation/SC accumulation.

Criteria for citizen participation in machizukuri	Categories	The city's score for each criterion	Takashima City's Score	Yasu City's Score	Kyoto City's Score
Criterion 5: Level of participation in project	Project obtains 1 point if citizens participate in one of: planning; decision-making implementing; monitoring	Score 5 = (T/MAX)	$43/(4 \times 49) = 0.22$	$109/(4 \times 47) = 0.58$	$141/(4 \times 126) = 0.28$
			Score 5 = 0.22	Score 5 = 0.58	Score 5 = 0.28
Criterion 6: Level of stakeholder involvement/ partnerships	Project obtains 1 point if it involves one of: business; NGOs/NPOs/ experts; citizens' groups; local government	Score 6 = (T/MAX)	$76/(4 \times 49) = 0.39$	$124/(4 \times 47) = 0.66$	$137/(4 \times 126) = 0.27$
			Score 6 = 0.39	Score 6 = 0.66	Score 6 = 0.27
Criterion 7: Level of continuity	$2 < 5$ years; 1 point; $5 \leq 10$ years; 2 points; $10 \leq 15$ years; 3 points; 15 years$\leq$; 4 points	Score 7 = (T/MAX)	$81/(4 \times 49) = 0.41$	$102/(4 \times 47) = 0.52$	$128/(4 \times 126) = 0.41$
			Score 7 = 0.41	Score 7 = 0.54	Score 7 = 0.25
Criterion 8: Achievement in collaborative institutional framework creation	Perceived outcomes: Small, 2 points medium, 3 points large, 4 points	Score8: F-Creation Quality = (T/M); F-Creation Quantity = $(T/\text{pop}) \times (10^3)$	Environment Ordinance; Environment Plan; New Energy Vision; TES F-Creation Quality = 9/16 = 0.56; F-Creation Quantity = 0.17	Machizukuri White Paper; Smile Yasu Energy Vision; Environmental Basic Plan; Machizukuri Basic Ordinance: F-Creation Quality = 16/16 = 1; F-Creation Quantity = 0.32	Basic Environmental Ordinance, Basic Environmental Plan, 2004 Ordinance on Global Warning Prevention, Global Warning Prevention Plan, Kyoto LA 21 F-creation Quality = 9/20 = 0.5; F-Creation Quantity = 10/1, 466,042 × (10^3) = 0.007

Kyoto's Local Agenda 21 promotes generation of projects in partnership with citizens' groups, businesses and the city government; however, there are no established processes or methods for their evaluation or monitoring.

Kyoto's score for 'Framework-Creation Quality' is as follows:

$$1 \text{ point (for the Basic Environmental Ordinance)}$$
$$+ 2 \text{ points} \times 3 \text{(for the Basic Environmental Plan,}$$
$$2004 \text{ Ordinance on Global Warming Prevention,}$$
$$\text{and Global Warming Prevention Plan)} +$$
$$3 \text{ points (for Kyoto Agenda 21)} = 10$$

Table 6.4 (see Appendix C) shows the scores of 126 individual projects in Kyoto City on the SD achievement indicator (Cr. 4) and the three kinds of SC

indicators (Cr. 5, Cr. 6, and Cr. 7), together with the correlation coefficients between the SD achievement and these three indicators, and the SC average. The correlation coefficient between the SD achievement and the SC average is 0.51, which suggests a positive correlation between the two variables. This result is
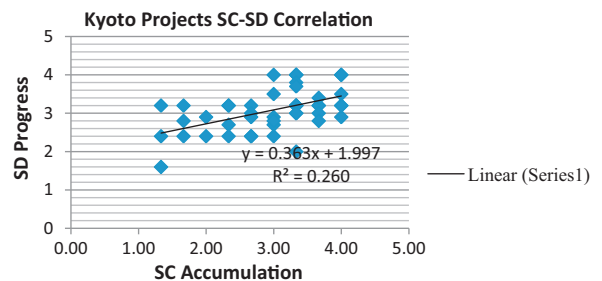
Fig. 6.3. Kyoto projects SC–SD correlation.

supported by the regression analysis (Fig. 6.3) with its positive slope of 0.36 and the 't-statistic' 3.9, showing a statistically significant positive relationship at a 95% confidence interval, with the R^2 figure 0.26 indicating a limited explanatory power of the variable X (SC) on to the variable Y (SD).

The largest of the three correlation coefficients between the SD achievement and an SC indicator that with the 'level of continuity' (Cr. 7) is 0.52, followed by that with 'stakeholder involvement' (Cr. 6) at 0.33, and 0.31 with the 'level of participation' (Cr. 5). This order of the strength of correlation is the same as in the case of Yasu City. Though no conclusive judgment can be made, it is interesting that the same order in the strength of correlation was shown in the case of Yasu and Kyoto, both of which are achieving certain concrete results in collaboration with citizens. However, the low figure for R^2 suggests that, as was the case in Yasu, social capital accumulation in project development is not the only factor that explains Kyoto's comparatively high achievement in SD. The R^2 has not captured the networks promoted through citizen participation measures, including the ones expanded by the Kyoto Local Agenda 21 Forum and the '100-Person Machizukuri Committee', which have been developing various bridging networks, such as that involving the Dyeing Industry Association.

6.4. Conclusion

The results of all three case studies showed that there is a positive correlation between the social capital accumulation, manifested in citizen participation in developing city projects, and the level of sustainability achievement; the correlation coefficient between the two variables and the 't-statistic' for Takashima, Yasu and Kyoto was 0.46 ('t-statistic' at 3.56), 0.68 (6.3), and 0.51 (3.9) respectively. The fact that the figures for R^2, which shows the level of explanatory power of SC for SD, were not so high – 0.21 (Takashima), 0.46 (Yasu), and 0.26 (Kyoto) – indicates that the way social capital accumulation was measured in the present research did not fully capture it. The 'degree of citizen participation in the project development' and the 'degree of stakeholder involvement' may have captured mainly social capital accumulation through bonding and some bridging networks but not accumulation through bracing social capital networks.

The conclusion of the quantitative investigation of the hypothesis, 'Where community planning for sustainability involves more citizen participation, the progress towards sustainability is greater' is that it was proved to be true. However, the results also indicated that when the effectiveness of social capital networks is to be measured, the influence of bracing social capital networks needs to be measured as well by examining results achieved through bracing networks which link bonding/bridging networks across sectors and levels.

7. Conclusion

In Chapter 1, I explored recent developments in regard to Local Agenda 21 (LA 21) in the literature and identified factors found to have made a difference in local sustainability performance – mainly in Europe, North America and Japan. These factors included, among others, the level of institutional capacity of cities and municipalities, resources arising from network connections, and committed individuals and champions within any sector who promote processes to enhance local sustainability in policy and programmes. Learning from those past research findings, I set the hypothesis of my present research:

Where community planning for sustainability involves higher levels of citizen participation, the resulting progress towards sustainability is greater.

In order to examine this hypothesis, I conducted qualitative and quantitative investigations using Japanese cases representing three contrasting settings, one rural city, one small industrial city, and one major historic centre, all displaying different developments of social capital networks. Interviews, surveys and document analysis were used for qualitative investigation, and regression analysis was used to examine the relationship between the level of social capital (SC) accumulation and the level of sustainability achievement (SD). It is premised here that the extent of citizen participation can be considered an important indicator for the availability of social capital. The premised relationship between the two variables is reproduced in Fig. 1.2 SC–SD Phase in Chapter 1. In this figure, social capital (SC) is defined as the social capital accumulation achieved through citizen participation represented by the horizontal axis, while the vertical axis represents sustainable development (SD) excluding the element of citizen participation and social capital accumulation. In the following section, I will briefly summarise the findings of each case study and then show the results of the investigation based on Fig. 1.2, which shows the four quadrants of the SC–SD Phase, then argue what conclusions can be drawn from these different outcomes in each LA 21/machizukuri endeavour.

7.1. Different governance modes generate different LA 21 outcomes

Among the three cities studied, Takashima is closest to the traditional type of rural Japanese community, where bonding social capital has characterised the community's governance. One proof of the operation of a solid bonding network here is the successful resumption of a traditional farming method for production of 'Takashima Living-Creature Rice-Paddy Rice'. However, a diminishing young population who generally seek job opportunities outside the city has made it difficult in recent years to continue the traditional style of governance. Takashima's bridging social capital networks, such as non-profit organisations, are at the fledgling stage and have not yet become a force for sustainability, while on the other hand traditional neighbourhood groups have been unobtrusively maintaining the community's sustainability without interruption for centuries. The integration of these two types of social capital networks had not yet happened, and they seemed unlikely to initiate such change left to themselves, due mainly to the decreasing and ageing population, as well as the somewhat conservative local culture. Therefore a new city government, founded upon the merger of five towns and a village, began to take a new approach in 2005 to develop *machizukuri* processes. They set up two types of new community organisations, namely mayoral consultative 'Community Councils' comprised of various stakeholders, and '*Machizukuri* Committees' of neighbourhood associations and NPOs. The city government hoped that the new organisations would collaboratively advance *machizukuri* processes (i.e. community planning). Three years later, however, there were still no exchanges taking place between the two types of new community organisations, and no
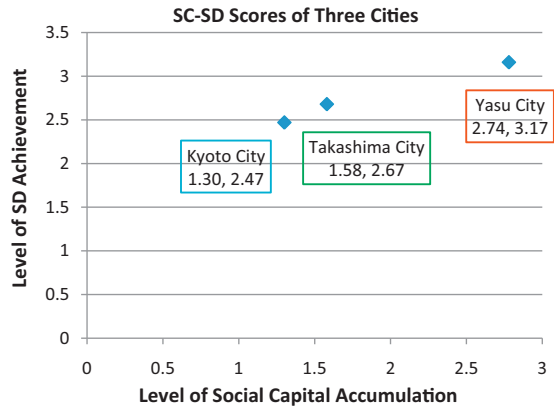
Fig. 6.4. SC–SD scores of three cities – Takashima, Yasu and Kyoto.

willingness was apparent among the citizens to be involved in the new *machizukuri* processes.

In order to deal with this impasse in an era of decentralisation, Takashima City adopted a new strategy in 2009, creating the 'Citizen Collaboration Centre' to support NPO and citizen group activities for information and networking. Whether this new measure will work or not may depend upon how the local government builds upon existing and emerging bridging networks. In terms of measures for achieving SD, the policy of '*Wa no Sato*' (back to a recycling society on the land) consists of measures for achieving sustainability in the five areas of tourism, industry, environment, food, and care. Although the bridging social capital networks have not developed very far yet, place-based bonding networks and their traditional corporatist-type relationship with the local government produced a rather high SD achievement score, as we can see in Fig. 6.4. Considering these aspects, I decided that Takashima City fits in the 'City-active SD' quadrant of the SC–SD Phase (Fig. 7.1).
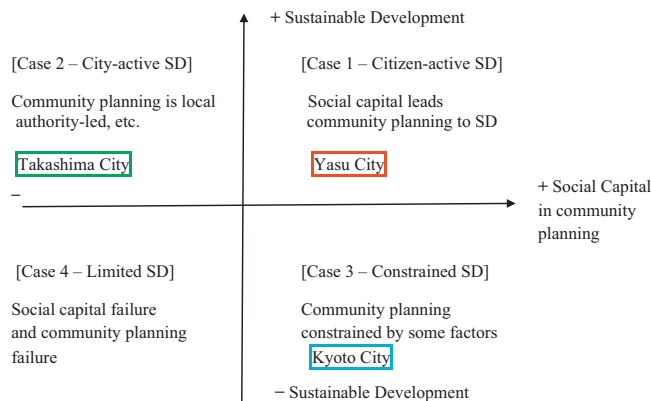
Fig. 7.1. SC–SD phase figure.

Yasu City is a case where empowered citizens have been developing *machizukuri* processes in collaboration with city staff members, sharing their enthusiasm for *machizukuri*. Yasu became a city in 2004 by merger with Chuzu Town (population 12,000). The emphasis on the environment and citizen participation in its community planning has been consistent. In terms of neighbourhood governance, it is going through a transition from a community of closed neighbourhood associations (NAs) to open-type *machizukuri* councils/NAs, as is happening in rural areas generally as well as city centres. The influx of new residents following the opening of IBM Japan's operation in 1971 and the ensuing entry of high-tech companies into the town has resulted in changes to the neighbourhood communities. In some areas new residents started various citizen activities, and this gave impetus to long-established citizens, encouraging them to be more active in community planning processes. Another empowerment opportunity for citizens was provided in 1995 by the Yasu Town government's new policy to prioritise citizen participation and the environment.

A key component was to involve citizens in all institutional framework creation, such as formulating the *Machizukuri* Ordinance, from the outset. The small size of the population (about 50,000) – even after the merger – was an advantage in building close relations with citizens, who became deeply involved in *machizukuri* rule-making. The resulting sense of citizen ownership of the rules collectively set up with the city government for community planning seems to have been a success factor behind the city's top scores in SC level and SD achievement (Fig. 6.4). In determining that Yasu is a typical case of 'Citizen-active SD' (Fig. 7.1), I took account of the local government's proactive role as a 'facilitator'.

Kyoto is a case that represents big city *machizukuri* (community planning) and at the same time one that displays a mixture of old and new Japan. Kyoto's culture of progress based on having been the capital of Japan from the 8th to the 19th century has made its citizens feel proud to pass on its community management traditions to future generations; an Aneyakoji *machizukuri* activist puts it like this:

''I strongly believe that 'sustainable area making' includes handing on values from generation to generation. A large part of our grappling with Aneyakoji machizukuri is about how to pass on our will and intention to the next generation and beyond. I believe this is shared by all machizukuri activists.'' [49]

Thinking of the fact that many cities/towns have community festivals that have continued for decades or centuries, the *machizukuri* activist's comment is persuasive and fittingly displays the spirit of local action for sustainability.

The city's positive attitude to increasing citizen participation in policy-making can be seen in the setting up of the 'Kyoto Local Agenda 21 Forum' in 1998 to promote collaboration with citizens, non-profit organizations (NPOs) and businesses. Creating three flourishing partnership projects, KES Kyoto Environment-Management System for small businesses, Green Labelling for electrical appliances, and the Green Power Certification System, the Forum has been successful in achieving concrete partnership goals. The city's recent undertaking, '100-Person *Machizukuri* Committee for Kyoto City's Future', is a new attempt to increase citizens' involvement in policy planning by inviting them to identify agendas for the city's *machizukuri* and to produce implementation plans. Plenty of enthusiasm for *machizukuri* was evident among the 148 participants though a problem surfaced; one group of participants asked for assurances that their efforts and sacrifice of a year's spare time would be reflected in the city's actual policies. This pointed to the need to build a stronger relationship of trust between the participants and the city government so as to keep up the participants' zeal for *machizukuri* by clarifying how their year-long volunteering efforts would be concretely reflected in policy measures. Undoubtedly it is essential to clarify the mechanisms for citizen participation.

At the neighbourhood-community level, it was observed that community governance for sustainability in Kyoto tended to be independent of local government, apart from such formalities as seeking grant opportunities or getting information and support in establishing 'district planning' (which requires the city's endorsement at the final stage in order to achieve legal backing). This is probably due both to Kyoto's historically strong autonomous governance traditions in local communities, and also to a lack of opportunities for communication between them and city government staff. Each community is intent on achieving its own sustainability goals, such as making a building agreement covering several neighbourhoods. However,

[49] Kunihiro Shimomae 20 June 2009, 'Ryukyoshi Tsurezure' (http://plaza.rakuten.co.jp/camphorac/diary/200906200000/#trackback).

the vibrant bonding and bridging networks that exist have seemingly not led to a city-wide sustainable city goal. Thus, in addition to clarifying the mechanisms for and effectiveness of citizen participation, there seemed to be a strong need to further develop communication channels between local community residents and the city government. In view of the room for improvement in these two aspects, Kyoto currently seems to fit in the 'Constrained SD' category; abundant social capital is available, yet it is constrained by a lack of communication between the city and the local communities about mutual goals for sustainable city status.

These case studies seemingly show that the types of networks available in communities do make a difference in the outcomes of LA 21 action for sustainability. From the example of Takashima, bonding networks can maintain a community's environment steadily, making use of the local knowledge that has been passed down the generations. However, faced with various kinds of environmental sustainability issues – including an increasing number of abandoned farmlands and *satoyama* (community hillsides) – as a consequence of economic and, in turn, social problems, the city inevitably had to seek resources, especially human resources, and new methodologies and knowledge from outside sources. Takashima therefore tried to create bridging networks by establishing new community organisations, without real success. The next step the city took was to listen to the views of non-profit organisations endeavouring to solve community problems, by holding a forum. This was exactly what was needed. Takashima City staff members exchanged views with NPOs directly, and learned what they wanted to have to develop their activities. As a result, the City established the Citizen Collaboration Centre, where citizens hoping to obtain information or meet other people with similar interests can go. Networking that starts this way is citizens' needs-oriented and bottom–up. Social capital is created by spending time and energy with others (Ostrom, 1995, p. 131), and networks created top–down may not necessarily develop into functioning social capital networks. This seems to be an important lesson to learn from Takashima's example. It seems essential for local government to consider ways of building on existing networks, rather than creating them from scratch (Pennington & Rydin, 2000).

In Yasu's case, building bridging networks was spurred by incomers to the city in the 1970s. Before that era, Yasu was mainly a community of bonding networks similar to Takashima. After the influx of new people along with the increase in IT-related job opportunities, there was a period when the existing and new residents had to make efforts to learn to live together within their neighbourhood communities. Yasu decided to take a new turn for its *machizukuri* at the 40th anniversary of the town government in 1995, choosing 'life' as its overarching "super-concept", 'human rights and the environment' as its principles, and 'citizen activities' as its priority policy measures. The choice of 'life' as its key concept might have been related to the Kobe Earthquake, which occurred in January 1995, the start of a new era for Japan's civil society, which then became more active in bridging network building. Yasu's new clear strategy seems to have kick-started the formation of a new identity among the citizens that was inclusive of newcomers. The collaborative formulation of institutional frameworks – the Yasu Town *Machizukuri* White Paper with citizens from 1998 to 2000, the New Energy Vision from 1999 to 2001, the Basic Environmental Plan from 2005 to 2006, and the Basic *Machizukuri* Ordinance from 2005 to 2007 – gave the citizens some ideal empowerment opportunities; in developing the ownership of these rules of the city community and the processes for sustainability, a relationship of trust was generated between and among citizens and dedicated city staff members. This made a difference by generating bracing social capital networks such as the Smile Market Project and the 'Buying Without Increasing Waste' projects, which were both the fruits of citizens' bottom–up policy development. Yet the involvement of dedicated local government staff members must have increased the legitimacy of the projects and helped in their expansion. What we can learn from Yasu's case is a practical way to develop citizens' ownership of sustainability processes. Once this ownership is established, the creativity of citizens will begin to flourish, as has happened in Yasu, and will become a force to support local government's endeavours to achieve SD goals.

A factor in accounting for Yasu's strength has been its joint rule-making for community planning, and the city's small population (about 50,000) might have made this relatively easy to introduce. It may be more difficult for much larger cities such as Kyoto (1.5 million people) to do the same, because, as Healey (2003, p. 101) comments, "urban governance contexts can be more complex and diverse requiring a grasp of the particularities of situated dynamics". In particular, Kyoto citizens' traditional autonomous community management spirit is surprisingly strong at the neighbourhood level. This makes it difficult for the city government to involve various neighbourhood communities in city-wide community planning with a

view to sharing goals for sustainability. In Kyoto's case an attempt was made to bypass this problem by setting up the '100-Person *Machizukuri* Committee'. This did achieve something, in that each team has created valuable networking opportunities, but it has not as yet fulfilled its potential because the participants are still not clear about whether/how their 1–3 year-long volunteering efforts will be reflected in the city's planning policy measures. Given this experience in Kyoto, it is clearly important for citizen participation in collaborative rule-making to build a trust relationship between the city government and the citizens in order to make the most of any already existing social capital that will assist in achieving sustainable development goals. A lesson we can learn from Kyoto's case is hence that participation measures should be accompanied by collaborative rule-making in advance in order to clarify the way the results of participation will be used in developing city projects, as well as by provision of information regarding likely obstacles to effective participation. Examples of such obstacles include financial or legal limitations that limit the local government's ability to respond to particular issues, parochialism that distracts attention from issues that concern a wider community, and decision-making slowdowns (Lowndes, Pratchett, & Stoker, 2001). It may be an idea to share this kind of information beforehand among the participants to help realise a long-lasting and productive participation.

How then is it possible to build on existing social capital networks in a large city such as Kyoto? The operation of Kyoto's Local Agenda 21 Forum has been productive. In particular, KES Community, where KES-member small businesses in a school district participate jointly in CSR activities in order to contribute to a lifestyle shift through children's environmental education, is an example of an effective way of building on existing networks, with the Kyoto Local Agenda 21 Forum acting as a bracing social capital network, linking bonding and bridging networks that exist in the community. One further notable feature of Kyoto in terms of its strength in building on existing networks is the way in which experts' knowledge was proactively sought out, even by neighbourhood communities. The success of the 'Sanjo Light-up Project' was not brought about by the neighbourhood bonding networks alone. The links that the members of the Kyo no Sanjo *Machizukuri* Committee had, as a bracing network, mustered various resources from volunteer groups of such professionals as the Kyoto Society of Architects and Building Engineers and the *Machibura* (local strollers) Society, both of which are bridging networks.

In this case, there was no direct involvement of local government, but the collective action generated by Sanjo's *machizukuri* committee has definitely contributed to improving the Sanjo area's economic sustainability, changing a once lacklustre declining commercial district into one of the most popular traditional and contemporary shopping districts in the city. This example shows that the institutional capacity of the neighbourhood community was integral to success, with key bracing network individuals enabling it to connect various networks and to obtain from outside the resources, new ideas/information/human resources, etc. needed for innovative action to happen.

7.2. Relevance of the LA 21 approach into the future

One may question whether this LA 21 bottom–up approach would work in a period when there is reason for concern about extreme weather events and natural disasters, which it could be argued require the resumption of a top–down approach to regulation and/or public goods provision. However, Japan's recent disaster experiences clearly showed a further need for developing a bottom–up approach. As Schwartz (2003, p. 14) notes – referring to the great Hanshin-Awaji (Kobe) Earthquake which killed 6430 people in 1995 – "the disparity between public and private responses to the disaster could not have been starker"; 1.5 million volunteers came from inside and outside of Japan. Local authorities in the disaster-hit area in most cases remained overloaded for some time, and in Japan's experience of several earthquakes and tsunami disasters, the immediate need for supplies of food/water or other daily necessities' is met by business and citizen networks bringing these in, without any top–down guidance. At the end of 2011, a newspaper editorial summarised the situation following the Great Tohoku Earthquake with the heading "Heavy burden on the damaged area lacking a control tower" and reported examples of difficulties experienced by the affected area's mayors, such as regulations preventing the setting up of even a temporary supermarket on farmland. The editorial noted that 'bonds' (between people) had become a buzzword in Japan (Nikkei 30 December 2011).

A similar result was seen in a November 2011 Cabinet Office Survey regarding changes in attitudes to life following the earthquake: 90% of respondents felt the importance of interpersonal bonds, while 60% felt the importance of individuals' efforts and 40% felt helpless or without hope. I argue therefore that Local Agenda 21, with its bottom–up approach, is becoming even more relevant in this era when extreme weather events and

natural disasters are seemingly becoming more frequent, widespread, and severe. The spirit of 'thinking global and acting local' is all the more pertinent. Citizen participation in enhancing sustainability processes may not be adequate on its own for cities/towns that feel the need to work on preparedness measures; various networks need to be connected and be given a chance to empower themselves so that they feel a real sense of ownership of the local processes for sustainability. This is where the role played by local government is a key component of efforts to advance local action for sustainability into the future. In order to expedite the process of goal sharing for sustainability with citizens, local government should: (1) create an environment in which citizens empower themselves by collaboratively making the rules for participation, and (2) identify key individuals with the capacity to connect various networks, and involve them in development of strategies for sustainability.

7.3. Conclusion

Drawing on the findings of past LA 21 studies, this paper has examined the workings and effects of networks, an aspect that had been found to be influential for achieving sustainable development at the local level. In particular, my study investigated quantitatively and qualitatively whether the availability of more social capital improves local sustainability performance. Although it would not be appropriate to assume without further study that the conclusions from this study would apply to other places, given the limited sample size, the quantitative investigation showed that social capital accumulation through citizen participation in cities'

project development can affect the level of sustainability achievement. It also indicated that social capital generation through various network connections may not be captured in the present methodology for measuring social capital accumulation, based on looking at the level of participation in cities' project development. The qualitative investigation suggested that the types of governance and the types of networks available in communities make a difference in their LA 21 outcomes. This leads to the conclusion that the institutional capacity of local government and the community is another key factor that affects sustainability performance. A local government which takes a facilitator approach, allowing for the creation of bridging and bracing networks, was shown to encourage citizens' ownership of the processes for sustainability, thus achieving a better performance than a local government which takes a top–down approach. However, even facilitator-type governance is not a panacea. To make the most of the operation of social capital networks for LA 21 actions, collaborative rule-making for citizen participation between local government and citizens is essential. Collective action for sustainability to prepare for unexpected situations would be more effective if local government and civil society, especially in the form of bracing networks, collaboratively developed their strategies and monitored progress towards their goals. Although civic engagement in Japanese cities appears to be at a high level, this would be a worthwhile topic for further comparative study.

Appendix A

Table 6.2.

Table 6.2
Scores of Takashima City's Projects for SC and SD criteria.

	Projects for sustainability	Content of projects	Score for SD achieve-ment (Cr. 4)	SC average	Level of participation (Cr. 5)	Stakeholder involvement (Cr. 6)	Level of continuity (Cr. 7)
	Correlation Coefficient		1	0.46	0.44	0.293	0.298
1	Grants to communities	Grants for voluntary disaster preparedness	2.5	1.3	1	1	2
2	Community organisation promotion	Local cuisine preservation etc	2.5	1	1	1	1
3	Education counselling	Counselling for truancy etc	2.8	1.3	1	1	2
4	Inviting foreign nationals for teaching languages	Posting of native English speakers	3.1	0.7	0	1	1
5	NPO networking promotion	Subsidies for Makino *Machizukuri* Network Centre	2.4	1.3	1	2	1
6	School children's field activity support	Support for 111 children's associations	2.7	1	1	1	1
7	Junior high school domestic and international exchanges	Sending 12 students to Petoskey City and 22 to Hokkaido	2.6	1	0	1	2

Table 6.2 (*Continued*)

	Projects for sustainability	Content of projects	Score for SD achieve-ment (Cr. 4)	SC average	Level of participation (Cr. 5)	Stakeholder involvement (Cr. 6)	Level of continuity (Cr. 7)
8	Posting international cooperation advisors	Two native English speakers	2.7	0.7	0	1	1
9	Gender equality promotion	Establishment of a 'Gender Equal-Participation Centre'	2.4	2	2	2	2
10	Human rights promotion	Awareness-raising education	2.4	2	1	3	2
11	Nurse home visits	Implementing Takashima City Community Nursing Plan	3.1	1.3	1	1	2
12	Comprehensive support for community welfare activities	Strengthening networking between the Social Welfare Council, district welfare officers, and NPOs	2.9	1	1	1	1
13	Takashima Hospital construction	Establishing networking with welfare facilities to strengthen the community health system	3	1	0	1	2
14	Food education	Educating children about a good diet and local cuisine	2.8	1	0	1	2
15	Grant for senior citizen clubs	130 senior citizen clubs/Senior Citizens Job Centre	2.8	1	0	1	2
16	Congratulating elderly citizens	Gift fund for celebrating the long life of 258 persons	2.6	0.7	0	1	1
17	Children home-life counselling	Counselling for child rearing/ child abuse	2.8	1.7	1	2	2
18	Community child-rearing support	Support for 13 child-rearing circles	3	1.7	1	2	2
19	Handicapped people support	Day Service Centre for training and sign language volunteer training	3	2	2	2	2
20	Child support allowance	Actual grant: ¥244.95 million (state/prefecture ¥208 million, city ¥36.95 million)	3	1.7	2	2	1
21	District welfare officer council management	¥12.86 million (state/ prefecture ¥8.6 million, city ¥4.26 million) for welfare officer training	2.7	2	2	2	2
22	Summer holiday services	Providing handicapped children with training and activities to develop creativity	2.8	1	0	2	1
23	Heating from wood chips	Biomass-based heating plant (523 kW) to provide hot water to two welfare facilities	3.7	2	1	2	3
24	English correspondence learning school	To enable students to obtain qualifications to apply for colleges/universities	2.4	0.7	0	1	1
25	New small-industry development	Promotion of "branding" of local resources: crepe silk clothing	2.7	1.3	0	2	2
26	Forest experiencing school	Acceptance of programmes by NPOs to encourage settlement in Takashima	2.7	2	2	2	2
27	Nature symbiosis-type farming promotion	Providing school lunches made with local produce	5	2.7	3	3	2
28	Farm produce protection measures	Protection from wild animals through patrolling and electric fencing	2.9	1.7	1	2	2
29	Local lumber distribution promotion	Forest state research and improvement	3.6	2.3	3	3	1

Table 6.2 (*Continued*)

	Projects for sustainability	Content of projects	Score for SD achieve-ment (Cr. 4)	SC average	Level of participation (Cr. 5)	Stakeholder involvement (Cr. 6)	Level of continuity (Cr. 7)
30	Local specialty product promotion	Promotion of Takashima vegetables, and subsidies for seed purchase	2.8	2.3	2	3	2
31	Small loans	Providing subsidies for interest payment (262 projects)	2.8	1.3	1	2	1
32	Shopping district regeneration	Providing subsidies for TMO (town management organisation)-based projects to vitalise city centres	2.5	1.3	1	1	2
33	Chamber of commerce management grant	Support for a merger of chambers of commerce	2.5	1	0	2	1
34	Central watershed trail improvement	Actual grant:¥3.65 million	2.6	1.7	1	2	2
35	Tourist event promotion	Holding concerts, photograph contests, cycle races, and conducting research for tour planning	2.6	1.3	1	2	1
36	*Satoyama* (hillside) jamboree	Annual hillside hike and symposium discussing symbiosis with nature	2.4	1.7	1	2	2
37	Urgent aquatic plant removal	For Lake Biwa; actual grant ¥4.70 million (state/prefecture ¥2.79 million, city¥1.91 million)	3	1	1	1	1
38	Sewerage maintenance	To improve the water quality of Lake Biwa	3.2	1.3	1	1	2
39	Public housing maintenance	Reconstruction cost for a four-storey 50-unit building	2.9	1.3	1	1	2
40	Waste collection	For the collection of 15,210 tons of flammable waste and 955 tons of waste unsuitable for incineration	3.3	2	2	2	2
41	Eco-life promotion	Publication of information magazines and holding workshops	3.8	2	1	2	3
42	Fire prevention water tank	Purchase of earthquake-proof water tanks of 440 m^3	3	1.3	1	1	2
43	Disaster preparedness	Purchase of food, and hydraulic jacks, and distribution of furniture anti-slide device to households	3.1	1	1	1	1
44	Public traffic measures	For improving traffic networks	2.6	1	0	1	2
45	Road improvement	Prefectural road improvement	2.8	0.7	0	1	1
46	City road snow removal	Actual grant: ¥190 million (state/prefecture ¥25 million, city ¥165 million)	3.1	1	0	1	2
47	City road maintenance	Actual grant: ¥83.74 million	2.6	0.7	0	1	1
48	Earthquake-proofness inspection for wooden houses	Inspection of 165 houses and modification subsidy to 1 house	3	1	0	1	2
49	River improvement	For flood prevention and landscape improvement	2.7	0.7	0	1	1
Total			140.9		43	76	81

Source of 'content of projects': *Shiyakusho Tsushin-bo* – a *machizukuri* evaluation questionnaire survey (2006).

Appendix B

Table 6.3.

Table 6.3
Scores of Yasu City's Projects for SC and SD criteria.

Yasu City	Projects for sustainability	Content of projects	Score for SD achieve-ment (Cr. 4)	SC average	Level of participa-tion (Cr. 5)	Stakeholder involvement (Cr. 6)	Level of continuity (Cr. 7)
	Correlation		**1**	**0.68**	**0.48**	**0.55**	**0.75**
1-1	Child rearing	57 members asked for after-school care	3	2	2	2	2
1-2	Youth leaders' education	Participation in school summer camps	3	2	2	2	2
1-3	Eco school	Inviting community people as lecturers	2	2.7	4	2	2
1-4	Life-long education	'Open School' support project; demand is high	3	2.7	3	3	2
1-5	Human rights and peace education	90 out of 91 NAs held discussions, 2789 joined	2.4	2	1	3	2
1-6	Resolution of discrimination issues	Held eight workshops for Human Rights with 398 employers	2.4	2	1	3	2
1-7	Gender equality	Maintained the proportion of women council members 30.0%	2.6	1.7	1	2	2
1-8	Multicultural society	Invited 12 people from Clinton Township, as the 14th exchange	2.4	1.7	1	2	2
2-1	Health promotion	21 Health Plan added 'metabolic syndrome', 'food education', and 'screenings' to the items	2.4	1.7	1	2	2
2-2	Elderly citizen welfare	8 supporter-training lectures for dementia held (214 participants)	3	2.7	3	3	2
2-3	Handicapped citizen welfare	More support for the handicapped to obtain employment	2.6	1.7	1	3	1
2-4	Community welfare	Moves by NAs to implement welfare projects independently	2.6	1.7	1	3	2
2-5	Poor household welfare	Counselling for singlemothers, mental diseases and multiple debts	3	2	2	2	2
2-6	Fire/disaster prevention	53.9% of NAs had established preparedness groups. Disaster contracts made with large retailers	2.6	2.3	1	4	2
2-7	Securing a safe life for citizens	Coordination strengthened between tax and pension sections	4.0	2.3	2	3	3
2-8	Traffic safety	Elderly friendly road plans saw no progress due to insufficient disbursement	2	1.7	1	2	2
3-1	Landscape preservation/ creation	In some districts, activities were voluntarily conducted by citizens	2.4	2	1	3	2
3-2-1	Neighbourhood landscape	10 district agreements were contracted	3	2.7	4	2	2
3-2-2	Effluent prevention	Oil contamination dealt with by the farming population	3	3.3	4	4	2

Table 6.3 (*Continued*)

Yasu City	Projects for sustainability	Content of projects	Score for SD achieve-ment (Cr. 4)	SC average	Level of participa-tion (Cr. 5)	Stakeholder involvement (Cr. 6)	Level of continuity (Cr. 7)
3-2-3	Water quality improvement	Implemented with citizens through a project to restore common reed clusters	3	3	4	3	2
3-2-4	Satoyama restoration	The Forest Cooperative was commissioned to undertake it	3	3	4	2	3
3-2-5	Greening	Conducted by the Fishery Cooperative and Yasu Water Resource Organisation	3	3	4	3	2
3-2-6	River cleaning	24 May 60 people participated; 5 July 90 people; River Eco-tour 15 times, 265 people	3	3	4	3	2
3-3	Biomass town/''Eco-Try'' project	400 solar systems installed with 1370 kWh; 1793 households started the 'Eco-Try'	7.2	4	4	4	4
3-4	Recycling	To increase 'my bag' use, agreements were signed by businesses to charge for plastic bags	5.6	4	4	4	4
3-4-2	Reduce waste and reuse promotion	A citizen-project team's 'reuse station' reduced bulky rubbish	5.6	4	4	4	4
3-4-3	Dealing with illegal disposal	The removal of disposed items commissioned to the elderly people job centre	2.4	1.7	1	2	2
3-4-4	Appropriate disposal promotion	Strengthened the campaign for safe disposal	2.4	2	2	2	2
3-5	Heritage protection and preservation	Museums helped citizens to rediscover communities' cultural assets	2.4	1.3	1	1	2
4-1	Infrastructure improvement	National government approved Yasu City's plan to create an IT business cluster	3.6	1.7	1	2	2
4-2	Industry promotion	Grants given to 25 companies	2.8	2	2	2	2
4-3	First industry infrastructure improvement	102 people in 24 farming groups decided to carry on the family farm	3.2	2	2	2	2
4-3-2	Organic rice promotion	Improved farm-land environmental in 1713 ha in 26 villages	4.8	3	4	3	2
4-3-3	Diversification of farm industry	'Farmland improvement' started for 70% of agricultural land	4.8	3	4	3	2
4-3-4	Forestry promotion	3 ha of timber thinning to improve *satoyama* along Lake Biwa shore	4.8	3	2	4	3
4-3-5	Fishery promotion	Restored the water environment with citizens' groups/businesses	4	2	2	2	2
4-3-6	Local production local consumption	School lunch prepared using local products	4.8	3.7	4	4	3
4-4	Tourism promotion	Provided 'picture story shows' to promote tourism	2.8	3.3	4	4	2
5-1	Land use improvement	Tonami District produced its District Plan. Town planning conducted with citizens	3.8	1.7	1	2	2

Table 6.3 (*Continued*)

Yasu City	Projects for sustainability	Content of projects	Score for SD achieve-ment (Cr. 4)	SC average	Level of participa-tion (Cr. 5)	Stakeholder involvement (Cr. 6)	Level of continuity (Cr. 7)
5-2	Road network improvement	Greening of city roads required large expenditure including maintenance cost	2.8	1.7	1	2	2
5-3	Greater use of public transportation	The average use of four bus routes was 43.4 persons per bus per day, of whom 86% free-of-charge users	2.4	2.7	4	2	2
5-4	Living environment improvement	Funding to cover community park management granted to the local communities	3.9	2.7	3	3	2
5-5	City infrastructure improvement	Station Area Development Plan was drafted by citizens and businesses	2.6	0.7	0	1	1
6-1	Citizen activities promotion	To realise the principle of 'collaboration', 'Citizens' Proposal System' needs to be created	3.2	2.7	4	4	2
6-2	Promotion of information sharing with citizens	A gap exists between the information the city delivers and citizens want	3.4	2.7	2	3	2
6-3	Improvement of fiscal management	The pre-merger systems and projects continued unchanged; streamlining is necessary	2	1.7	1	2	2
6-4	Efficient public administration	Surveillance by citizens increasingly intense; staff members need training in accountability	2.4	1	0	1	2
Total			151.1	111.2	109	124	102

Source of 'content of projects' and projects' evaluation base: 2007 Yasu City Policy Measure Evaluation Table.

Appendix C

Table 6.4.

Table 6.4
Scores of Kyoto City's Projects for SC and SD criteria.

		Number of projects in the category	Achievement in sustainability (Cr. 4)	SC average	Level of participation in project (Cr. 5)	Level of stakeholder involvement/ partnerships (Cr. 6)	Level of continuity (Cr. 7)
			1	0.51	0.31	0.33	0.52
111	1. Everyone must be fully respected as an individual	8	2.4	1.3	1	1	2
112	2. All people should have equal opportunities to lead an active life	4	2.8	1.7	2	1	2
113	3. Children should be raised to be broad-minded, socially conscious and independent	5	3.5	4.0	4	4	4
121	1. People must support each other to live with peace of mind	3	2.7	2.3	2	2	3
122	2. Parents should feel safe and reassured about having and raising children	5	2.9	2.0	2	2	2

Table 6.4 (*Continued*)

		Number of projects in the category	Achievement in sustainability (Cr. 4)	SC average	Level of participation in project (Cr. 5)	Level of stakeholder involvement/ partnerships (Cr. 6)	Level of continuity (Cr. 7)
123	3. To live healthily in body and mind	7	2.9	3.0	3	4	2
131	1311 Kyoto Agenda 21 Forum	3	2.9	4.0	4	4	4
	1312 Ecology Centre	1	3.2	3.7	4	4	3
	Car emission reduction	1	3.2	4.0	4	4	4
	'Eco-driving' promotion	1	3.2	3.7	3	4	4
	CO_2 reduction at city government buildings	1	3.2	2.3	2	1	4
	Loans for environmental improvement	1	3.2	2.7	2	3	3
	Kyoto Environmental Award	1	3.2	3.3	3	4	3
	Awareness raising	1	3.2	4.0	4	4	4
	Air quality % (Total average evaluation 3.2)	1	3.2	2.3	2	2	3
	Water quality	1	4	3.0	3	2	4
	Noise	1	4	3.3	4	2	4
	Dioxin	1	4	4.0	4	4	4
	Solar panel output total	1	2.4	2.7	4	2	2
	Low emission car use	1	4	3.3	4	2	4
	Public drainage coverage ratio	1	3.2	1.3	0	1	3
	Advanced sewage treatment coverage	1	3.2	1.7	0	1	4
	Shift ratio: combined to separate drainage	1	1.6	1.3	0	1	3
	1313 Reduction rate of total waste	1	4	4.0	4	4	4
	Reuse rate of waste	1	2.4	2.7	4	2	2
	Landfill reduction rate	1	2.4	2.0	3	1	2
	Waste incineration reduction rate	1	4	3.3	3	4	3
132	2. Making daily life safe and strong against disasters	3	3.2	3.3	4	3	3
133	3. To ensure safety, security and peace of mind in daily life	2	2.4	1.7	1	2	2
134	4. Making Kyoto a nice place to take a walk	5	3	3.7	4	4	3
211	1. To make Kyoto beautiful	4	2.8	3.7	4	4	3
212	2. Fully display a mature culture	7	3.4	3.7	4	4	3
213	3. To promote exchange in and outside Japan	3	3.5	3.0	3	4	2
214	4. Improving oneself throughout one's lifetime	4	3.8	3.3	4	4	2
221	1. To build an innovative industrial network city	4	3	2.7	3	3	2
222	2. To promote tourism for 21 century Kyoto	6	3.7	3.3	4	4	2
223	3. The accumulation of and exchange with universities will produce new vitality	5	3	3.3	4	4	2
224	4. Making full use of the ability to draw young people	2	3.2	3.3	4	4	2
231	1. To develop Kyoto with character and glamour	3	3.2	3.3	4	4	2
232	2. Building traffic infrastructure to support the diversity of city activities	4	3	3.3	4	4	2
233	3. Building the infrastructure to respond to a multi-media & network society	7	2.9	2.7	3	3	2
310	1. To share information with citizens	3	2.7	3.0	3	4	2

Table 6.4 (*Continued*)

		Number of projects in the category	Achievement in sustainability (Cr. 4)	SC average	Level of participation in project (Cr. 5)	Level of stakeholder involvement/ partnerships (Cr. 6)	Level of continuity (Cr. 7)
320	2. To form policies that utilise the wisdom and creativity of citizens	2	2	3.3	4	4	2
330	3. To implement policies together with citizens	2	2.4	3.0	4	3	2
340	4. To evaluate policies with citizens and vitalise the operations of city administration	2	2.8	3.0	4	3	2
350	5. For ward government to promote urban development that draws on local characteristics	3	2.4	2.3	3	2	2
		126	141.3	136	143	137	128

Source of 'content of projects' and projects' evaluation base: 2008 Kyoto City Policy Measure Evaluation Table.

References

Barrett, B. F. (2000). Decentralisation in Japan: Negotiating the transfer of authority. *Japanese Studies, 20*, 33–48.

Barrett, B. F., & Usui, M. (2002). Local Agenda 21 in Japan: transforming local environmental governance. *Local Environment, 7*, 49–67.

Bærenholdt, J. O., & Aarsæther, N. (1998). Coping strategies in the North. In N. Aarsæther & J. O. Bærenholdt (Eds.), *Coping strategies in the North – Local practices in the context of global restructuring*. Copenhagen: Nordic Council of Ministers.

Bærenholdt, J. O., & Aarsæther, N. (2002). Coping strategies, social capital and space. *European Urban and Regional Studies, 9*(2), 151–165.

Broadbent, J. (1998). *Environmental politics in Japan: Networks of power and protest*. Cambridge, UK: Cambridge University Press.

Brumann, C. (2006). Whose Kyoto? Competing models of local autonomy and the townscape in the old imperial capital. In C. Hein & P. Pelletier (Eds.), *Cities, autonomy, and decentralisation in Japan*. London: Routledge.

Brumann, C. (2012). *Tradition, democracy, and the townscape of Kyoto: Claiming a right to the past*. London: Routledge.

Bulkeley, H., & Betsill, M. (2003). *Cities and climate change*. New York: Routledge.

Calder, K. E. (1988). *Crisis and compensation: Public policy and political stability in Japan, 1949–1986*. Princeton: Princeton University Press.

Carter, N. (2001). *The politics of the environment*. Cambridge: Cambridge University Press.

Chihō Gikai Kasseika Kenkyū-kai (CGKK) [Research society for revitalising municipal assembly]. (2009). Kiso-jichitai no Arikata to Chōson Gikai no Arubeki Sugata [An ideal form of municipal government and municipal assembly]. Report. May 2009. http://www.nactva.gr.jp/html/search/pdf/houkoku3.pdf.

Coleman, J. S. (1988). Social capital in the creation of human-capital. *American Journal of Sociology, 94*, S95–S120.

Curtis, G. (1997). A 'Recipe' for democratic development. *Journal of Democracy, 8*(13), 139–145.

Development Bank of Japan Community Planning Team. (2007). *Shimin-shikin ga Chiiki wo Kizuku* [*Citizen funding builds local communities*] (pp. 94–101). Tokyo: Gyosei.

Devuyst, D. (2001). Introduction to sustainability assessment at the local level. In D. Devuyst, L. Hens, & W. De Lannoy (Eds.), *How green is the city?* New York: Columbia University Press.

Doi, T., & Bessho, S. (2004). *Nihon no chihō-sai wo meguru shoseido to sono hensen* [*Developments in the system for Japanese local bonds*]. Ministry of Finance, Policy Research Institute. http://www.mof.go.jp/pri/research/discussion_paper/ron095.pdf Last accessed 5 June 2012. 11 May 2004. PRI Discussion Paper Series (No.04A 15).

Ekins, P. (1992). *Wealth beyond measure*. London: GAIA.

Endo, Y. (2007). Shigaken Yasu-shi no torikumi – kankyō to keizai wo ryōritsu saseru Yasu-shi no chisan-chishō no machizukuri [A Report of Yasu City, Shiga Prefecture – Yasu's local-production-for-local-consumption machizukuri combining environmental and economic improvement]. In T. Wada & K. Taura (Eds.), *Shimin/chiiki ga susumeru chikyū ondanka bōshi [Climate change prevention by citizens and communities]* Kyoto: Gakugei Shuppan.

Evans, B., Joas, M., Sundback, S., & Theobald, K. (2005). *Governing sustainable cities*. London, Sterling, VA: Earthscan.

Evans, B., & Theobald, K. (2001). *Local authorities' self assessment of local agenda 21 (LASALA): accelerating local sustainability – evaluating european local agenda 21 processes (Rep. No. vol 1)*. Freiburg: ICLEI.

Evans, B., & Theobald, K. (2003). Policy and practice LASALA: Evaluating local agenda 21 in Europe. *Journal of Environmental Planning and Management, 46*(5), 781–794.

Evans, N. (2002). Machi-zukuri as a new paradigm in Japanese urban planning: reality or myth? *Japan Forum, 14*, 443–464.

Falleth, E. (2006). Setesdal Vesthei-Ryfylkeheiane Norway: local co-management in a protected area. In Y. Rydin & E. Falleth (Eds.), *Networks and institutions in natural resource management* (pp. 57–73). Cheltenham: Edward Elgar.

Garon, S. (2003). From Meiji to Heisei: The state and civil society in Japan. In F. J. Schwartz & S. J. Pharr (Eds.), *The state of civil society in Japan* (pp. 42–62). Cambridge: Cambridge University Press.

Gittell, R., & Vidal, A. (1998). *Community organizing: Building social capital as a development strategy*. Thousand Oaks, CA: Sage Publications.

Granovetter, M. S. (1973). The strength of weak ties. *The American Journal of Sociology, 78*(6), 1360–1380.

Hashimoto, T. (1995). *Sengo no Nihon Keizai [Japan's postwar economy]*. Tokyo: Iwanami Shoten.

Healey, P. (2003). Collaborative planning in perspective. *Planning Theory, 2*, 101–123.

Healey, P. (2006). *Collaborative planning: shaping places in fragmented societies*. London: Macmillan.

Hebbert, M. (1986). Urban sprawl and urban planning in Japan. *The Town Planning Review, 57*, 141–158.

Hein, C., & Pelletier, P. (Eds.). (2006). *Cities, autonomy, and decentralization in Japan*. London: Routledge.

Hiraoka, S., & Wada, T. (2005). Political system and social background for promotion of global warming prevention by citizen participation in local government: a case study of Yasu Town, Shiga Prefecture (in Japanese). *Ritsumeikan Review of Industrial Society (Sangyō Shakai Ronshū), 41*, 39–55.

Hirata, K. (2005). The state of civil society in Japan (review). *The Journal of Japanese Studies, 31*(2), 417–420.

Hirohara, M. (2002). Machizukuri no keizoku to henyō [Machizukuri continuity and transformation]. In K. Shiraishi, K. Tomino, & M. Hirohara (Eds.), *Gendai no Machizukuri to Chiiki-shakai no Henkaku [Comtemporary machizukuri and social change in local communities]* (pp. 52–76). Tokyo: Gakugei Shuppan.

Hirohara, M. (2008a). Jichitai Gyōsei to Chiiki Shakai wo Musubu Shakai Jikken [Experiment in connecting municipal administration and local communities]. http://lorc.ryukoku.ac.jp/phase1/docs/hirohara.pdf.

Hirohara, M. (2008b). *Jichitai Gyōsei to Chiiki Shakai wo Musubu Shakai Jikken [Experiment in connecting municipal administration and local communities]*. Sanka to kyōdō no chiiki kōkyō seisaku kaihatsu shisutemu [Local community public policy development systems for promoting participation and collaboration], Tokyo: Nihon Hyouron-sha.

Hoppe, T., & Coenen, F. (2011). Creating an analytical framework for local sustainability performance: a Dutch Case Study. *Local Environment, 16*, 229–250.

ICLEI. (2002). *Local governments' response to agenda 21: summary report of LA21 survey response with regional focus*. Toronto: Local Governments for Sustainability.

Ikegami, E. (2005). *Bonds of civility – aesthetic networks and the political origins of Japanese culture*. Cambridge: Cambridge University Press.

Ikemoto, Y. (2007). Nōgyō-sha toshite ikiru toshi-jūmin no tenshin [City-dwellers becoming farmers in the countryside]. In The Japanese Association for Rural Studies & H. Torigoe (Eds.), *Mura no shakai wo kenkyū suru [Studying village communities]* (pp. 206–214). Tokyo: Rural Culture Association Japan.

Inoguchi, T. (2007). Culture and democracy: Reflections on the Japanese experience. *Political Science in Asia, 2*(2), 1–19.

Inui, K. (2003). *Chūkanteki kōkyōsei to shite no chiiki communitii – Chiiki no koto ha chiiki de kimeru toha dōiu koto ka [Local community as intermediate between the public and the private – What does it mean when people say that local community matters are best decided by the local community?]* Taiwa ni yoru kenchiku and machisodate [Architecture and community-building through dialogue], Kyoto: Gakugei Suppan. pp. 58–79.

Ishida, Y. (2006). Local initiatives and decentralisation of planning power in Japan. In C. Hein & P. Pelletier (Eds.), *Cities, autonomy, and decentralization in Japan* (pp. 25–54). London: Routledge.

Iwasaki, N., Ajisaka, M., Ueda, T., Takagi, M., Hirohara, M., & Yoshihara, N. (1989). *Chōnai-kai wo dou toraeruka [How should neighbourhood associations operate?]* Chōnai-kai no kenkyū [Study on neighbourhood associations], Tokyo: Ochanomizu Shobo.

Joas, M., Gronholm, B., & Martar, T. (2001). *Local authorities' self assessment of local agenda 21 (LASALA): identification of good LA21 processes*. Freiburg: ICLEI.

Kada, Y. (2002). *Kankyō Shakaigaku Nyumon [An invitation to environmental sociology]* (vol. 9). Tokyo: Yuhikaku.

Kadomatsu, N. (2006). Recent development of decentralisation, de-regulation and citizens' participation in Japanese city planning law'. *Kobe University Law Review, 40*, 1–14.

Kerr, A. (2001). *Dogs and demons – the fall of modern Japan*. London: Penguin Books.

Kobayashi, I. (2006). *Management of Machizukuri*. Machizukuri no Maneejimento Shisutemu [Management system of machizukuri], Tokyo: Asakura Publishing.

Kobayashi, I. (2008). *'1980-nen ni hajimatta nihon no machizukuri' [Japan's machizukuri started in 1980] Fukkō-juku Tsūshin No. 18*. NPO Kobe Machizukuri Institute.

Kobayashi, S. (Ed.). (1999). *Chihô Bunken Jidai no Machizukuri Jorei [Machizukuri ordinances in the era of local rights]* Tokyo: Gakugei Shuppansha.

Kohara, T. (2007). The Great Heisei consolidation: A critical review. *Social Science Japan, 37*, 3–6.

Koike, H. (2006). Paper presented at Walk21-VII, "The Next Steps". *The 7th international conference on walking and liveable communities* http://www.walk21.com/papers/M%2006%20Teshima,%20Koike,%20Moromoto,%20Yashida,%20TanakaCreating%20sustainable%20cities%20through%20Machinoeki.pdf.

Kurasaka, H. (2011). *ISEP* http://sustainable-zone.org/index.php?plugin=attach&refer=Sustainable%20Zone&openfile=%B1%CA%C2%B3%C3%CF%C2%D32011%C7%AF%C8%C7%CA%F3%B9%F0%BD%F1.pdf.

Kusakabe, E. (2011). *Renascent social capital in Japanese Communities – networks for building a sustainable society*. London: University College London.

Kyoto City 2008 Policy Measure Evaluation Table (2009). Kyoto City

Lafferty, W. (2004). Introduction: form and function in governance for sustainable development. In W. Lafferty (Ed.), *Governance for sustainable development* (pp. 1–31). Cheltenham: Edward Elgar.

Lafferty, W., & Eckberg, K. (1998). *From the earth summit to Local Agenda 21: working towards sustainable development*. London: Earthscan.

Lowndes, V., Pratchett, L., & Stoker, G. (2001). Trends in public participation: Part 1 – Local government perspectives. *Public Administration, 79*(1), 205–222.

Matsuoka, M. (2007). Mura-zukuri e no tenkai [Development towards village community-making]. In The Japanese Association for Rural Studies. In H. Torigoe (Ed.), *Mura no shakai wo kenkyū suru [Studying village communities]* (pp. 199–204). Tokyo: Rural Culture Association Japan.

Millard-Ball, A. (2011). *Do city climate plans reduce emissions?* Stanford: Stanford University.

Miyamoto, K. (1992). *Kankyō to Kaihatsu. Iwanami Shimin Daigaku – Ningen no Rekishi wo Kangaeru [Iwanami Citizens University series – Looking at human history]* (Vol. 14). Tokyo: Iwanami Shoten.

Miyanaga, K. (2008). *Preparation and implementation of the basic environmental plan through public involvement and partnership: a case study of Yasu City*. Shiga Prefecture: Lake Biwa Environmental Research Institute.

Morotomi, T. (2003). *Kankyō [Environment]*. Tokyo: Iwanami Shoten.

Nakamura, H. (1968). Urban ward associations in Japan. In C. Hein & P. Pelletier (Eds.), *Readings in urban sociology* (pp. 186–208). London: Routledge.

Naito, M. (2005). Toshi metaborizumu – junkangata-shakai [The metabolism of cities – a no-waste-circular-economy society]. In K. Ueta, N. Jinno, Y. Nishimura, & Y. Mamiya (Eds.), *Toshi no amenitii to ekorojii [Cities' amenity and ecology]* Tokyo: Iwanami Shoten.

National Eco-City Contest Network. (2009). Kankyō shuto contesuto – chiiki kara nihon wo kaeru nanatsu no teian [Eco-city contest – 7 proposals to change Japan starting from local communities]. Tokyo: Research Institute for High-Life.

Nishibori, Y. (2008). *Gendai toshi-seisaku to chihō zaisei [Contemporary urban policy and local government finance]*. Tokyo: Sakurai Shoten.

Nishimura, Y. (2005). *Keikan-hō no igi to jichitai no korekara no kadai [The significance of the Landscape Act and the tasks of local government]*. Keikan-hō to Keikan Machizukuri [The landscape act and 'landscape-machizukuri'], Kyoto: Architectural Institute of Japan.

Nitobe, I. (1905). *Bushido – the soul of Japan*. Tokyo: The Student Company.

Olsson, J. (2009). Sustainable development from below: institutionalising a global idea-complex. *Local Environment, 14*, 127–138.

Ostrom, E. (1990). *Governing the commons: the evolution of institutions for collective action*. Cambridge: Cambridge University Press.

Ostrom, E. (1995). Self-organization and social capital. *Industrial and Corporate Change, 4*, 131–159.

Ostrom, E. (1999). Social capital: a fad or a fundamental concept? In P. Dasgupta & I. Serageldin (Eds.), *Social capital: a multifaceted perspective* (pp. 172–214). World Bank.

Pekkanen, R. (2003). Molding Japanese civil society. In F. J. Schwartz & S. J. Pharr (Eds.), *The state of civil society in Japan*. Cambridge, UK, New York: Cambridge University Press.

Pekkanen, R. (2006). *Japan's dual civil society: members without advocates*. Stanford: Stanford University Press.

Pennington, M., & Rydin, Y. (2000). Researching social capital in local environmental policy contexts. *Policy & Politics, 28*, 233–249.

Portney, K. E., & Cuttler, Z. (2010). The local nonprofit sector and the pursuit of sustainability in American cities: a preliminary exploration. *Local Environment, 15*, 323–339.

Putnam, R. D. (2000). *Bowling alone*. New York: Simon & Schuster.

Rausch, A. (2006). The Heisei Dai Gappei: a case study for understanding the municipal mergers of the Heisei era. *Japan Forum, 18*(1), 133–156.

Rydin, Y., & Falleth, E. (2006). *Networks and institutions in natural resource management*. Cheltenham, Northampton: Edward Elgar.

Rydin, Y., & Pennington, M. (2000). Public participation and local environmental planning: the collective action problem and the potential of social capital. *Local Environment, 5*, 153–189.

Rydin, Y., & Holman, N. (2004). Re-evaluating the contribution of social capital in achieving sustainable development. *Local Environment, 9*, 117–133.

Schebath, A. (2006). Fiscal stress of Japanese local public sector in the 1990s: situation, structural reasons, solutions. In C. Hein & P. Pelletier (Eds.), *Cities, autonomy, and decentralisation in Japan* (pp. 81–). London: Routledge.

Sen, A. K. (1985). *Commodities and capabilities*. Oxford: Oxford University Press.

Schwartz, F. (2003). What is civil society? In F. J. Schwartz & S. J. Pharr (Eds.), *The state of civil society* (pp. 23–41).

Shiga SD 2030 Research Team, AIM Team Kyoto University, & Ritsumeikan University, (2007). *Local society design towards a low carbon economy – a case study in Shiga, Japan*.

Shiikawa, S. (2011). *Midori no Bunken Kaikaku [Green decentralisation reform] – Arumono wo ikasu chiiki-ryoku sōzō [Community power creation through making the most of what we have]*. Kyoto: Gakugei Shuppan.

Shimada, K., Naito, M., & Matsuoka, Y. (2009). *A roadmap for sustainable Shiga towards 2030*. Lake Biwa Environmental Research Institute.

Sorensen, A. (2002). *The making of urban Japan*. Abingdon, New York: Routledge.

Sorensen, A. (2004). Major issues of land management in Japan. In A. Sorensen, P. J. Marcotullio, & J. Grant (Eds.), *Towards sustainable cities* (pp. 197–216). Aldershot: Ashgate.

Sorensen, A. (2010). Urban sustainability and compact cities ideas in Japan: the diffusion, transformation and deployment of planning concepts. In P. Healey & R. Upton (Eds.), *Crossing borders: international exchange and planning practices* (pp. 117–140). London and New York: Routledge.

Sorensen, A. (2012). The state and social capital in Japan: (re) scripting the standard operating practices of neighbourhood civic engagement. In A. Daniere & H. V. Luong (Eds.), *The dynamics of social capital and civic engagement in Asia* (pp. 163–181). Abingdon, Oxfordshire, UK: Routledge.

Sorensen, A., & Funck, C. (Eds.). (2007). *Living cities in Japan – citizens' movements, machizukuri and local environments*. London, New York: Routledge.

Takahashi, Y. (1979). Formative period of the Rokucho, Machigumi of Kyoto in the Sengoku [warring] period [in Japanese]. *Journal of Architecture and Building Science, 282*, 169–175.

Takashima City Community Energy-Saving Vision (2008). Takashima City.

Takashima City Statistics (2008). Takashima City.

Takashima City Shiyakusho Tsushin-bo – a machizukuri evaluation questionnaire survey (2006). Takashima City.

Takeuchi, K., & Brown, R. D. (2003). *Satoyama: the traditional rural landscape of Japan*. Tokyo: Springer-Verlag.

Takeuchi, K. (2001). Nature conservation strategies for the 'Satoyama' and 'Satochi'. Habitats for secondary nature in Japan. *Global Environmental Resources, 5*(2), 193–198.

Tang, Z., Brody, S. D., Quinn, C. E., Chang, L., & Wei, T. (2010). *Moving from agenda to action: Evaluating local climate change action plans*. Lincoln: University of Nebraska.

Thermal and Nuclear Power Engineering Society (Karyoku Genshiryoku Hatsuden Gijutsu Kyoukai) (2008). *Jinetsu-hatsuden no genjou to doukou* (The state and trend of geothermal electric power generation). Tokyo.

Tsujinaka, Y., & Mori, Y. (1998). A profile of Japanese associations: a random mail survey 1997 [in Japanese]. *Tsukuba Hosei, 24*, 295–315.

Tsukiyama, H. (2007). Change of villages – depopulation and village changes. In H. Torigoe, K. Ikegami, & Y. Sato (Eds.), *Mura no*

shakai wo kenkyū suru [Studying village communities] (pp. 54–63). Tokyo: Rural Culture Association Japan.

Ueta, K. (2003). Jizokukanōsei to Kankyō-Keizai-Ron [Sustainability and environmental economic theory]. In Keio University Department of Economics (Ed.), *Keizaigaku no Kiki to Saisei [Responding to the crisis in economics]* Tokyo: Kōbundō.

Ui, J. (Ed.). (1992). *Industrial pollution in Japan*. Tokyo: United Nations University Press.

UNU-IAS (Institute of Advanced Studies). (2010). *Japan Satoyama Satoumi Assessment: Experiences and Lessons from Clusters (JSSA)*. Tokyo: United Nations University.

Utsunomiya, F. (1995). *Environmental problems and the role of local governments*. Development and the environment, Institute of Developing Economies.

Utsunomiya, F., & Hase, T. (2000). Japanese urban policy – challenges of the Rio Earth Summit. In N. Low, B. Gleeson, I. Elander, & R. Lidskog (Eds.), *Consuming cities: Urban environment in the global economy after the Rio declaration*. London, New York: Routledge.

Watanabe, S. J. (1999). *Shimin Sanka no Machizukuri: Masutâ Puran Zukuri no Genjô kara (Citizen Participation Based Machizukuri: From the point of view of making master plans)*. Tokyo: Gakugei Shuppansha.

Watanabe, S. J. (2007). Toshi keikaku vs machizukuri: emerging paradigm of civil society in Japan, 1950-1980. In A. Sorensen & C. Funck (Eds.), *Lving cities in Japan* (pp. 39–55). Abingdon, New York: Routledge.

WCED. (1987). *Our common future*. New York: United Nations.

Woolcock, M. (1998). Social capital and economic development: towards a theoretical synthesis and policy framework. *Theoriy and Society, 27*, 151–208.

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *ISUMA Canadian Journal of Policy Research, 2*, 11–17.

Woolcock, M., & Sweetser, A. T. (2002). Bright ideas: social capital – the bonds that connect. *ADB Review, 34*(2), 1–26.

Yamauchi, N. (1997). *Nonpurofitto economii [The nonprofit economy]*. Tokyo: Nihon Hyōronsha.

Yasu Citizen Activity Data Book (2007). Yasu City Machizukuri Collaboration Promotion Centre.

Yasu City Environmental Basic Plan for 2007–2017 (2007). Yasu City.

Yasu City 2007 Policy Measure Evaluation Table (2008). Yasu City.

Yasu ISO 'Easy and Fun Eco-Try' initiative Vol. 3 (2009). Yasu City Machizukuri Promotion Office.

Yoshitomi, M. (1998). *Nihon-keizai no shinjitsu [The truth about the Japanese economy]*. Tokyo: Toyo Keizai.

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