# The challenge of the e-Agora metrics: the social construction of meaningful measurements

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**Abstract:** 'How are we progressing towards achieving sustainable development in the EU's desired knowledge society?' Current lists of indicators, indices and assessment tools, which have been developed for measuring and displaying performance at different spatial levels, show that progress has been made. However, there are still a very large number of indicators, perhaps the majority, most specifically those which relate to social and political issues, that are difficult to capture. Issues such as intergenerational equity, aesthetics and governance come into this category. 'How is it possible to measure these and capture their full meaning and represent this back meaningfully to disparate groups of stakeholders in a society?' This paper will discuss these issues, highlighting the need for new methods and an alternative view of how to go about the capture and representation of the types of data with which we need to work.

**Keywords:** assessment methods; civil society organisations; CSO; knowledge society; sustainable development indicators; social construction.

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## 1   Introduction

The Lisbon European Council (CEC, 2000) sought to make Europe 'the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion'. This objective was reinforced by the Commission in the 'i2010' initiative, which sets the strategic framework for ICT policies in the Union and underlines that: 'Information and Communication technologies provide the backbone for the knowledge economy' (CEC, 2005). The knowledge society is seen as a key factor for growth and employment, contributing to economic and social development in Europe.

The conjoint realisation of sustainable urban development within a knowledge-based society has been summarised by the notion of the 'e-Agora'. This is taken from the Intelcity roadmap developed under the European Union's (EU) 5th Framework Programme (IST-2001-37373). This roadmap projected a vision of an integrated open intelligent information city platform system to support and integrate achieving the knowledge society and sustainable development of cities.

Ancient Greeks went to the Agora, a civic square used for public assembly or commerce, to do business or discuss plans for their community. Intelcity envisaged modern Europeans behaving similarly but in the e-Agora. By bringing together unconnected sources of information in one place, and by making that place available in digital space to everyone, from city planners, building developers, politicians, to individual citizens, the e-Agora could support improved management of cities and so help in achieving long-term physical, social and economic sustainability.

In turn, this vision of the e-Agora is based on wider vision of ICT-enabled participation in e-democracy; on the active participation of citizens, using ICTs, in decision-making and on collaboration between disparate stakeholders for policy-making purposes. Such e-participation consists of three main components (OECD, 2001): information provision; transactions (delivery of online services), and deliberation (citizen engagement in civic decision-making).

The question is: 'How are we progressing towards achieving the EU's desired sustainable development in the knowledge society?'

This paper will discuss this issue by presenting the analysis developed by the EU IntelCities project (www.intelcitiesproject.com) to examine the types of policies currently being adopted by cities to engage their citizens as active participants and key stakeholders in the community. These findings suggest that at the current rate of progress, it is still open to question whether the e-Agora will emerge to act as an effective vehicle for enabling citizen engagement to help deliver sustainable development by 2030 (Lombardi and Cooper, 2007; Lombardi et al., 2009).

However, to answer this question properly requires evidence acceptable to all the parties involved. Evidence can come in many forms but in the vast majority of cases will be reflected in some sort of quantitative measure. If this is accepted as a requirement then

the questions become: 'What aspects of civic performance do we need to evaluate? In which form do we display this? And is the e-Agora an effective space for displaying this information?'

These are not easy questions to answer and there are literally thousands of organisations attempting to establish and to disseminate sets of information, which will address this issue, at least in part and in a wide variety of forms, including UN, World Bank, OECD, EU and national institutions, such as Legambiente in Italy. Current lists of indicators, indices and assessment tools, which have been developed for measuring and displaying performance at different spatial levels, potentially in the e-Agora, show that progress has been made. However, there are still a very large number of indicators, perhaps the majority, most specifically those which relate to social and political issues, that are difficult to capture and represent meaningfully. In addition, if we only use quantitative measures then we risk foregoing the richness of human culture and society and consequently lose something significant, especially in terms of creating sustainable communities. Issues such as intergenerational equity, aesthetics, governance, self-identity and esteem and their relationship to place, can come into this category (Lombardi and Cooper, 2008).

Metrics are social constructs that have to be meaningful to the range of stakeholders they are meant to serve! The final part of this paper will focus on these difficulties, highlighting the need for new methods and an alternative view of how to go about the capture and representation of the types of data with which we need to work.

## 2   The cities-citizens equation

Achieving the e-Agora vision puts citizens at the centre of attention in the design of such online developments in terms of accessibility including, for example, the visually disabled, different age and language groups. The importance of e-participation and e-inclusion was recognised in the 'i2010' initiative; Member States, the European Commission, industry, and NGOs representing users have undertaken several actions to reduce the gap between certain sociodemographic groups and the average population regarding the usage of ICT. A landmark was the 2006 Ministerial 'Riga Declaration' on ICT for an inclusive information society, which set concrete targets for internet usage and availability, digital literacy, and accessibility of ICT by 2010.

In 2007, the European Commission launched the i2010 e-inclusion initiative to raise political awareness on e-inclusion, encourage replication of e-inclusion success stories throughout the EU, and pave the way for future actions. However, as specified by the (EC, 2009), e-inclusion is not yet a 'mission accomplished' since 40% of the EU population do not fully benefit from the information society and, if current trends continue, it will be very difficult to achieve most of the Riga targets at overall EU level. Social differences in ICT use persist and in some cases are even widening.

One of the main problems associated with the digital divide as applied to a liberal democracy is the capacity to participate in the new public space, the cyberspace – as in the extreme case, exclusively computer-based democratic participation (deliberation forums, online voting, etc.) could mean that no access means no vote. Therefore, there is a risk that some social groups – those without adequate access to or knowledge of

IT – will be underrepresented (or others overrepresented) in the policy formation processes and this would be incompatible with the equality principles of democracy.

While the theoretical concepts of e-democracy are still in early development, but many scholars agree that blogs (web logs), wikis and mailing lists may have significant effects in broadening the way democracy operates (Reddick, 2009). For active participation to be a successful factor for increased well-being, social cohesion and urban sustainability, politicians and administrators must highly value the input of citizens, for at the end of the day, the decisions made concern citizens' life and taxpayers' money. Therefore, appropriate mechanisms must be developed and deployed to enhance the involvement and the engagement of broader and/or new groups in the democratic process.

Previous studies by Lombardi and Cooper (2007, 2008), Lombardi et al. (2009) and Deakin et al. (2006) have reviewed respectively the expectations and aspirations of citizens in the European cities visited by the IntelCities Roadshows and the present contents of cities' existing websites using the Citizen Engagement matrix.

The EU IST Framework 6 Research IntelCities Project (IST.2002-507860) developed a prototype integrated information system for cities, known as the 'e-city platform', which links the range of electronic local government services (e-government) with those of local planning, urban development and regeneration (e-planning). This project introduced a user-provider paradigm of service delivery where it is the needs of the former that set the technological requirements of the latter (Curwell et al., 2005).

In IntelCities, the roadshows were used to identify what kinds of services and types of devices citizens currently preferred to use. The roadshows also identified the types of services the participants currently accessed. Typically (but not universally), the participants recruited by each city for their roadshow had good e-skills. Internet technologies were most frequently used as a means to access services (via PC and laptop). The very low preference expressed for using local television was seen as surprising, especially since this is the predominant mode being employed by Siena – one of the case study cities in IntelCities (Curwell et al., 2005). However, the low preference for public access points, such as kiosks, indicates the poor experience and low take-up of this type of terminal in these cities.

There was a noticeable lack of cross-regional differences in the level of e-skills and technology preferences expressed in the three cities taking part in the roadshows. As illustrated above, the internet technologies were most frequently used, via computer and laptop. This is clearly the main form of access either at home or at work. One noticeable distinction was a strong Italian preference for the mobile phone, whereas French participants expressed a preference for supplementing this technology with personal, face-to-face contacts. They were also interested in future development of TV. A lack of interest in personal digital assistants (PDAs) was common to participants from all three cities.

The roadshows also identified the types of services the participants currently accessed. Roadshow participants did not yet contact public services on a daily basis. In Marseille, only transport services were contacted daily by a significant number of workshop attendees, otherwise, the majority of proposed services were only contacted on infrequently. Getting information, leisure and entertainment were the most frequent. And this suggests a personal/domestic focus for participants from these European cities as well. In the roadshows, concern was expressed over: the expanding digital skills gap; the 'digital divide' – how the technologies are distributed and who has access to them

(e.g., high cost versus low income, disabled users, etc.), and other underlying structural issues related to security and ownership of the data and access by third parties. There was a clear balance of opinion in favour of public rather than private provision of civic online services in terms of creating greater trust and confidence in citizens.

In the second stage of the IntelCities project, three further roadshows were held to investigate the priorities citizens have for where and why online civic services should be provided. The main findings showed that although some citizens do want be able to access e-services through local community centres and libraries they mainly want to do so in their own homes. Such results also suggest that, in Europe, we are currently moving towards an e-Domus model of using ICTs rather than the e-Agora proposed to support the knowledge society.

The citizens who took part in the IntelCities roadshows also indicated that they want to be able to use local council services and tools whenever they want them – 24h/7day. In addition, they want their cities to consider, when developing online services, the ability of new digital technologies to speed up service delivery, allowing citizens fast and flexible access to information which is currently paper-based (86% in East Manchester) and to provide citizens with equal access to the services their city can offer, because new technologies can help include people who currently find it difficult to access and use city council service.

The IntelCities Citizen Engagement Matrix was devised to examine the types of policies currently being adopted by cities to engage their citizens as active participants and key stakeholders in the community. This matrix consists of a list of 40 online tools and services mapped against increasing categories of engagement. Using the OECD's model of information, consultation and active participation as a starting point, the Citizen Engagement Matrix examines five possible levels of city-citizen engagement in e-space.

At the most basic level, cities may provide their citizens with just online information or may allow e-based financial transactions. Citizens remain largely unengaged since information flows mainly from cities to citizens. Next consultative e-services establish a degree of reciprocity through the use, for instance, of multiple choice polls and closed question surveys. Typically, such cities are consulting their citizens through provision of fixed questions and a predetermined choice of responses. Deliberative involvement signifies greater engagement between cities and their citizens. In such cases, citizens are being encouraged to review and consider background information before expressing their views. Finally, the OECD's category of active participation is divided to identify whether cities or citizens instigate decision-making processes.

Deakin et al. (2006) used this categorisation system to review the websites offered by European cities. They concluded that a large proportion of such cities now offer e-services that provide a wide range of information sources online and that encourage citizens to pay their bills using digital technology. Further, many cities are reported as having developed their e-services to enable more complex online transactions and consultative exercises.

However, as Deakin et al. indicated, if cities are to reach the OECD's vision of: "… increasingly well-educated, informed and critical citizens [that] expect high quality services, streamlined administrative procedures and a government that takes their views and knowledge into account in public decision-making", then cities will have to engage all their citizens in the use of new digital technologies for consultative and deliberative purposes. They concluded that, while improving access is a precondition of engaging

citizens in policy-making and consultative activities, at present few European cities currently offer the range of e-services expected by advanced ICT users or presupposed by the OECD.

Civic authorities need, in the first instance, to provide a virtual version of the public realm that their citizens can then move into and occupy. If politicians are unwilling to cede a fully developed virtual public realm to citizens – to enable them, for instance, to take part in deliberative decision-making – then civic e-spaces are likely to remain restricted to the provision of information or, at best, be used for transactions of civic services. Conversely, if citizens refuse to move in and occupy civic e-space, then this is also likely to result in similar restrictions to information provision and service transactions, as illustrated by the bottom row of the diagram. Only if politicians are willing and able to provide an appropriate virtual public realm and citizens are willing and able to move in and exploit it, will the desired e-Agora become established (Lombardi et al., 2009).

For this to happen, however, integrated policy approaches for the conversion of local government to local governance that will enable the transformation of urban public administrations to innovative, effective, transparent and accountable institutions governing or steering the urban community in the digital age will need to emerge first; policies with process, that will change the relationship between local government and citizens with the help of ICT.

Whether European cities and their citizens will develop, in the future, the stronger appetite that is clearly required to live up to the OECD's expectations remain to be seen. At present, the OECD's aspirations, as operationalised through IntelCities's projected e-Agora, do not seem currently to be shared by either side of the equation – cities or their citizens – needed for their effective implementation.

## 3    The need for bottom-up metrics

If sustainable development is really to be based on substantive (as opposed to vestigial or cosmetic) community participation, then this will require a change in citizens' attitudes, beliefs, values and in their behaviour. Even these changes will not sufficient, of themselves, to reach the ambitious goals that have been set across Europe through Local Agenda 21. The rigorous adaptation of decision-making processes to include community participation is also necessary.

While the link to science, and the ability to identify and track material issues through indicators, have become more sophisticated, there are still difficulties associated with sustainable indicators. Some of these have to do with the problems associated with setting standard or fixed indicators, even within fairly small geographical envelopes. This is because the significance of environment varies with geography, and because cultural differences can result in concern focusing on widely differing matters. A review of a number of Eurobarometer survey results since 2000 show this quite conclusively (see, for example, European Commission, 2005).

Recent surveys (Horner, 2004; Brandon and Lombardi, 2005; Deakin et al., 2007) estimate that there are now over 600 formal or recognised full sustainable indicator sets in use, and many more that have been informally developed, or have been created as a subset of the larger agenda. Examples of indicators, indices and tools, which have been

developed for measuring the SUD at different spatial level, are provided in Table 1 below.

**Table 1**     An overview of indicators, indexes and tools at different spatial scale

| Global | Global Competitiveness Report (World Economy Forum), Transnationality Index (UNCTAD), Globalisation Index (A.T. Kearny), Globalisation Index (World Market Research Centre), … |
|---|---|
| National | Environmental Sustainability Index (ESI), Sustainable National Product (SNP), Human Development Index (HDI), Sustainable Economic Welfare Index (ISEW), (Daly & Cobb), Emergetical return of investment (Odum), Ecological Footprint (Rees), Information Society Index (for KS), WEF (Economic Competitiveness), GIS (Innovation), CPI (corruption perception), Human Appropriation of Net Primary Production (HANPP), Happy Planet Index (HPI), MIPS (Material Input per unit of Service), … |
| Regional | WWF Sustainability Checklist, Ecological footprint, … |
| City | Agenda 21, BRE Sustainability Checklist, Community Sustainability Assessment, SPARTACUS, SEEDA Sustainability checklist, SCALDS, CITY Green, Quality of Life model, PLACE3S, Citizen Engagement Matrix, Democracy indicators, CASBEE for Urban Development, ECOTECT, DOE 2.2, ... |
| Community | Agenda 21, UK Audit Comm Qu-o-L, LEED for Neighborhood, HQE2R, Safety indicators, … |
| Organisation | GRI, G3, UPBEAT, Intangible Assets Monitor (IAM), WBCSD, … |
| Infrastructure | CEEQUAL |
| Buildings | SB Tool, CASBEE, LEED, PromisE, SPeAR, EcoCal, BREEAM, HK-BEAM, SBAT, EcoQuantum, HQE, SuBETool, Qualitel, EcoEffect, LiderA, Økoprofil, Legep, Green Star, Sustainable Buildings Climate Index (UNEP), Building Design Advisor, Minnesota Sustainable Design Guide, ... |
| Materials | ECOPOINTS/ECOProfile, ... |

Note: The above list does not aim to be exhaustive.

Beyond this, there are both practical and conceptual difficulties involved in integrating indicator sets. For example, access to public transport can have both direct and indirect effects on people's health. Another example is the potential effects of some airborne pollutants on education attainment levels. All four of these parameters are often captured as single indicator sets but are rarely integrated. If they were, then public policy-makers might be influenced to act more decisively, where linked factors are show to be significant.

SD indicator sets across Europe differ strongly with respect to their size (Hametner and Steurer, 2007). While some countries have a small set with about 20 (headline) indicators (such as France, Germany and Norway), others use rather comprehensive sets with more than 100 indicators (such as Italy, Latvia, Switzerland and the UK). Some of these latter countries also use a smaller number of headline indicators for communication purposes. A few countries (Finland, Italy, Slovakia and Slovenia) also use aggregate indices such as the HDI or the Ecological Footprint. The EU SDI framework themes 'economic development' and 'climate change and energy' are the ones that are addressed most coherently. 'Public health' is another prominent issue in all national SDI sets analysed. In contrast, fewer countries obviously use indicators for the themes 'good governance' and 'global partnership'.

This conforms with the revised EU SD indicators set from 2007 that no longer contains a headline indicator for 'good governance'. As Eurostat's 2007 monitoring report points out, 'good governance is a new area for official statistics, which is reflected in the lack of robust and meaningful indicators on this topic' [Eurostat, (2007), p.268].

A further problem, as Sveiby and Armstrong (2004) pointed out, concerns the difficulty in identifying indicators that accord with the majority of the population. The fact that methods of capturing this information vary widely, and that different methods are effective in different cultures, makes this variation within populations even more difficult to quantify. Attitudes and behaviour patterns shift markedly within populations, sometimes over a short period of time, making longer-term monitoring a difficult proposition. The belief that climate change is now a significant threat is a clear example. The concern about working conditions in factories and agriculture in developing countries is another. These concerns have increased markedly in many countries, but there are still regions in Europe, and beyond, where other priorities loom much larger in the concerns of the population.

Because of all of these difficulties, the elementary question of whether the European economy is moving towards sustainability or away from sustainability cannot be answered with consensus on the basis of the indicators and the integrative framework currently in use (Munda, 2005; Curwell et al., 2002). In addition, there is still significant work that needs to be done on incorporating the general public effectively or substantively into policy-making processes (Curwell et al., 2005; Deakin et al., 2007).

The growing demand of stakeholders to participate in decision-making procedures, or even to control decision-making, is increasingly recognised by governments. Initiatives are being taken to implement legislation to legitimise public participation. This has been increasingly recognised by the Social Multi-Criteria Evaluation (SMCE) scientific community. Science for policy implies a responsibility of scientists towards the whole society and not just towards a specific or abstract or mythical decision-maker. In this context, 'transparency' becomes an essential feature of public policy processes. SMCE has been explicitly designed to enhance transparency; the main idea is that the results of an evaluation exercise depend on the way a given policy problem is 'represented' and thus the assumptions used and the interests and values considered have to be made clear and explicit. However, effective and successful public participation can only be realised in cases where these initiatives are supported by sufficient resources, staff, information and commitment to guarantee that the outcomes of such processes are actually followed up.

The work reported by Lombardi and Cooper (2008) and by Lombardi et al. (2010) has shown that civil society (CSOs) needs to be enabled to make efficient use of information to mobilise citizens in order to achieve goals set with regard to sustainable development. Members of the public should be able to contribute to the development and enhancement of sustainable development indicators, by providing new metrics for assessment and enhancement of their activities in their community neighbourhood, the city and the larger city region. All of this will have to be put in place if the emerging knowledge society is to take into account the visions, knowledge and interests of the widely different stakeholders who make up communities in our towns and cities.

A new indicator system of forward-looking and crosscutting indicators on good governance for sustainable development is highly relevant to a range of interrelated EU SD/KS policies at a variety of spatial scales. It would directly support the implementation of the EU Renewed Sustainable Development Strategy (SDS) (2001)

which called for the development of indicators capable of capturing the full complexity of SD.

In the medium term, such a new set of indicators might bring out further opportunities to break the link between economic growth and environmental degradation (Jackson, 2009), by providing relevant and robust indicators which are socially acceptable to citizens themselves – and not just to top down policy-makers. Furthermore, by integrating indicator sets, both practically and conceptually that serve specific areas, – such as 'good governance', 'sustainable development in city planning and management', 'democracy', 'innovation', and 'well-being' – public policy could be made more influential since it would link multiple factors that are of major significance to the lives of citizens themselves.

In other words, the meaningful participation of the public, through the civil society organisations (CSOs), requires that all relevant stakeholders are provided with the information and resources necessary to enable them to contribute to and influence the decision-making process. Furthermore, the design of decision-making process should foster comprehensive stakeholder participation. This makes the accessibility of reliable and easily understandable information essential. And the availability of this information should result in a situation where (urban) sustainability goals are not planned for CSOs but are co-produced in close cooperation with them. In the next section, three case studies of CSOs are reported which illustrate the problems associated with assessment measurements.

## 4   Case studies

'Legambiente', acknowledged by the Italian Ministry of Environment as an Association of Naturalistic Protection and is a member of both the Bureau Europeen de l'Environment (BEE) and of the International Union for Conservation of Nature (IUCN). It elaborates and publicises every year a report (entitled 'Ecosistema Urbano') on the environmental profile of the Italian cities. The report focuses on urban environment topics and investigates seven main themes (air, water, public transport, waste, energy, ecomanagement and urban environment) through 26 indicators. It employs indices elaborated by a qualified group of CSO members on the basis of a dataset (made up of 70 parameters) provided by each local administration.

These parameters correspond to the main data collected also by statisticians at the macro scale. The assessment is obtained through a specific procedure defined by external technicians and scientists: the method includes reference values and proper weighting rules, which assign different relevance to the indicators/indices. The procedure employed does not include a scientific validation of the data; final indicators and indices values are verified through an 'informal check' carried out by representative members of local CSO sections (mainly volunteers and civil servants) on the basis of their knowledge of the urban context they live in and also taking into account, if available, the most recent statistical survey at the local scale. Therefore, a priority area of research for Legambiente is to assess the reliability of data provided by local administrations and the possible linkage between top-down and bottom-up approaches. The adopted indicators conform to the pressure, state, response (PSR) model and are mainly quantitative: so, for example, the perceived 'quality' of urban space and the 'quality' of life are not analysed.

The CSO considers the current approach a first step towards sustainability evaluation and related civic society awareness. Legambiente, like many other CSOs, intends to go further, in the direction of social sustainability and intangible aspects (safety, accessibility to services, welfare, inclusion, governance, etc.). Consequently, an additional need of CSOs is to acquire knowledge on indicators and metrics that can be used to analyse and evaluate the social profile of urban areas, the perceptions of users and residents, the level of citizen engagement in decision-making processes and in the local definition of policy. Because of the large number of stakeholders and members of the community involved, Legambiente also aims to acquire knowledge about tools capable of promoting and realising e-participation.

Helka, a Finnish CSO, sees an acute need to integrate a more bottom-up approach in the development of SD-indicators. So far their development has been very expert-driven, thus missing a core factor of 'sustainability' – people's own perceptions about their quality of life. Also, indicators drawn from different actors and sectors of society are often incoherent and incompatible with each other. So Helka's purpose – to draw perspectives of the larger developments and trends in society – can be difficult to achieve. From the CSO's point of view, indicator work needs to be more localised, since the developmental paths, at least in bigger cities, can be very different even in quite close localities and neighbourhoods. While in some parts of a city area or neighbourhood, the perceived quality of life can be very good, in an adjoining area it may be very bad indeed. A 'general picture' averaged across the whole city may thus look quite OK, while in reality it is not at all in some 'hot spots'.

From Helka's perspective, in order to enhance the 'sustainability' of the development and monitoring processes (based on SD-indicators), a more user-centred approach is definitely required. This is Helka's homeground: Helka has been building internet-based neighbourhood forums in Helsinki since 1997 (www.helka.net and www.kaupunginosat.fi). In various projects since then, Helka has worked to find new ways to empower citizens to take active charge of their immediate home and everyday living environments – a key element for any kind of change towards more sustainable societies. The neighbourhood forums developed in Helka's Home Street Project are currently being developed towards more sophisticated Living Lab environments through which, for example, all local services (whether they are produced privately, publicly or by CSOs) can be made visible and developed further in coproduction with all local actors. These Living Lab environments could also easily be utilised for monitoring local sustainability.

In fact, a nucleus for such a process is already being developed in Helka's 'Safety Project' where an annual 'barometer' type of assessment is currently being conducted in 42 Helsinki neighbourhoods. The same questions are asked every year: they concern the development of communication, feelings of safety, etc. This set of questions could easily be widened by the inclusion even more local quality-of-life (sustainability) indicators and could be used for a localised monitoring of locally chosen SD-indicators. The barometer will take the form of an electronic survey (conducted via local internet forums) during 2008.

Map/GIS functions are currently being studied, for adding to Helka's local internet forums, for collecting an even wider range of place-based and other qualitative knowledge from the neighbourhoods/areas. This may open up even wider perspectives for SD-indicator work. One option for such an application has been the 'Urban mediator'

(developed by the Finnish partners in the EU-project context 'Intelligent Cities of the Next Generation').

The third organisation is eGA in Estonia. Its competencies are divided into five programme areas:

1    strategic e-governance development for central government

2    e-governance for local and regional governments

3    e-democracy and e-participation

4    ICT and education

5    e-security, e-democracy and e-participation.

The main interest of eGA in the e-Agora is to further implement the e-Democracy direction of its activities. eGA is currently preparing a guidebook on e-participation (both for local and central governments). The main aim of eGA is to facilitate a dialogue between civil society and the public sector by the use of modern ICT tools with the aim of strengthening civil society networks. The main targets of its programme are: strengthening e-democracy in public sector; spreading information on e-democracy concept and methods among local government authorities as well as civil society; and, research into e-democracy. A main area of interest for eGA is to identify possible gaps, test the relevance of existing indicators and their efficiency.

As these examples indicate, SD indicators for measuring social sustainability, governance/local democracy/participation issues should be developed in cooperation with all appropriate local actors. They could also then be monitored locally by using the many IT-provided tools available already (such as Helka's Living Lab environments). In order to make progress on sustainable development, these issues should then be taken into account in everyday municipal (local) decision-making. Goodwill is, however, not sufficient to establish this. CSOs need appropriate tools and mechanisms to do so effectively. Moving towards sustainability is a long road to travel. Along the way, we need to be sure that incremental steps are being taken in the right direction. Many tools are already available to citizens and governments for managing community sustainability. But these will only function once sustainability indicators are effectively defined, measured and reported. This applies to both planning and assessment tools.

## 5    Conclusions

Europe needs strong cities! It also needs citizens committed to the effective delivery of sustainable development. Urban policy has to make a positive contribution to the quality of life of citizens across Europe, in order to ensure that all citizens perceive Europe as contributing positively to their day-to-day lives and to the welfare of their local communities (Colantonio and Dixon, 2009).

Lessons are still be learnt about the implications on public administrations of the transformation from representative to participatory democracy in modern European policy and the role of citizens in local decision-making using the digital technologies. And finally, the continuing silence on the part and opportunities of integrated sustainability in local digital government is a great contrast with the way ICT's are

actually changing the role and responsibilities of public administration in the information and knowledge society will have to be broken.

New research is required which is able to compliment the aims of the Bristol Accord (2006) to deliver sustainable communities that are safe, fair, thriving, environmentally sensitive, well run, served, connected and designed. This research should be focused on creating an increased understanding of the urban knowledge and metrics necessary to adapt and harmonise the measuring system, assessment tools and procedures of professionals and decision-makers in order to ensure that policy interventions move urban environments in the directions that support more sustainable behaviour in more sustainable communities.

Good governance of local communities supported by CSOs skilled in use and deployment of suitable indictors developed from such research will be therefore an essential adjunct to supporting the continuing prosperity of European cities along with the well-being of their citizens.

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