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Are larger cities more sustainable? Lessons from integrated sustainability monitoring in 403 Dutch municipalities

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ABSTRACT

The challenges faced by municipalities in terms of integrated sustainability have until recently been difficult to study due to a lack of comparable data. This study discusses methods for conducting integrated sustainability assessments. One such method used by Telos, Tilburg University, has been further developed and used to benchmark local and regional sustainability development. In 2014, data for all 403 municipalities in the Netherlands on 90 indicators were retrieved, covering both economic, socio-cultural and environmental dimensions. The lessons learned are discussed, including the introduction of city typologies and the impact of the population size of municipalities on sustainability scores.

1. Introduction

International agreements in the field of environmental protection and sustainable development have sought to encourage nation states to monitor the implementation of such agreements and related protocols. Examples include the Conventions on Climate Change, on Biodiversity, on Transboundary Movements of Hazardous Wastes and their Disposal. Agenda 21, agreed at the first Earth Summit in Rio de Janeiro in 1992, and the UN Millennium Development Goals for 2015 and their ambitious post-2015 agenda also focus on sustainable development practices and innovations. Moreover, the sustainability of cities is one of the 17 new goals of the post-2015 agenda: 'Make cities and human settlements inclusive, safe, resilient and sustainable' (UN, 2015). Although these commitments are made by national governments, their implementation is primarily left to local government and private organizations (Zoeteman, 2013).

As a result, many 'Local Agenda 21' initiatives have been developed by citizen groups, businesses and municipalities since the Rio Summit of 1992. The more recent Kyoto protocol, an extension of the Climate Change Convention, has also led to a greater emphasis on local action aimed at realizing energy savings and the transition from fossil fuels to sustainable energy sources. The result has been that many initiatives at the municipal level have focused on energy issues that use the social approaches promoted by the sustainable development movement, such as openness to stakeholder initiatives, transparent policymaking and a facilitating government. Consequently, sustainability programs are often energy transition programs and still lack the broader context of environmental, social and economic dimensions. The enthusiasm for promoting policies that address climate change has, however, created a momentum in many regions of the world that favors a process of broadening municipal climate action plans into integrated sustainability programs. How can such integrated sustainability approaches be

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designed and operationalized? And what new lessons can be learned from integrated monitoring approaches?

This paper will discuss these questions and present an example of how local participation processes are applied to arrive at authoritative sustainability monitoring. The latter results in outcomes that are respected by authorities and all stakeholders as the state of the art in sustainability monitoring, that is used for setting policy priorities and monitoring their implementation. Furthermore, it will provide a continuous strive to improve in a cost effective way the database that is essential for monitoring integrated sustainability. Against this background, this paper describes the method developed by Telos, Tilburg University, for integrated sustainability monitoring in municipalities. Subsequently the use of the method will be illustrated for the 403 municipalities of the Netherlands and the results will be briefly analyzed. The paper concludes with a discussion of the general lessons to be learned from this approach, as well as the trends and correlations detected between sustainability themes and indicators.

2. Interactive sustainability assessment of municipalities

Organizing a sustainability agenda in a municipality requires at the start an interactive approach that involves not only public authorities but also citizens and business stakeholders. This is important to obtain broader support and increase momentum. It also promotes a community learning effect. The questions to be addressed in such a planning and implementation cycle are, for example, the themes that are to be incorporated in the framework of sustainable development, the long-term goals to be achieved, action plans and monitoring of results. Many approaches of this kind have been shared on the internet. An example is the promotion of a Sustainability Assessment Tool by the Northern Ireland Local Government Sustainable Development Forum (Sustainable NI, 2015).

At the EU level, a toolkit for integrated sustainability monitoring has been developed and promoted using a Reference Framework for European Sustainable Cities (RFSC). This webtool was created after the Leipzig Charter of May 2007 by, amongst others, the EU Member States and the European Commission (EC) (RFSC, 2015). The RFSC is a good current example of a comprehensive sustainability monitoring method. It covers the three pillars of sustainability, including economic, social and environmental aspects. In addition to these three pillars, the RFSC also introduces a fourth pillar which covers aspects of governance relating to municipal ambitions and associated policy actions. The RFSC is a voluntary self-assessment instrument that supports interactive municipal sustainability programs. It does not provide a consistent database covering the range of participating municipalities. Nor does it provide personal guidance to the stakeholders in municipalities to help them engage with discussions on sustainability improvement.

Many examples could be added, as shown in an inventory of methodologies for the issue of climate protection which already exceeds 1000 cases (Toolbox Climate Protection, 2015). ICLEI (2015) has also summarized approaches by which municipalities can optimize their ‘sustainability cycles’.

Although the initiative for consultations should be taken by municipal councils, practice shows that councils often only learn the importance of cross-sector cooperation and consultation during the process. An external trigger or catalyst is therefore often needed to begin such interactive exercises. This may take the form of pressure from the public or the business community, the vision of elected politicians or a national priority program that encourages municipalities to take new initiatives. City benchmarking can also provide a stimulus in this respect.

In the Netherlands interactive sustainability assessment was used in the period 2000–2005 to design an integrative framework which not only meets scientific requirements but also resonates with the needs of municipal and provincial authorities. The assessment tool which resulted from these exercises is presented in Section 4.

The concept of sustainability monitoring and the structures for data collection were first developed at the international and national levels. There was a gradual recognition that data systems should also take account of the municipal level, although socio-economic processes are not restricted to the borders of the municipality and often have a regional character. A major reason for a municipal focus is that political responsibilities are concentrated at the municipal level. Municipal sustainability monitoring requires a broad and standardized database. International organizations (in the fields of statistics and administration) are in the process of developing such a broad set of standardized sustainability data for cities. The following section summarizes initiatives for collecting the required data.

3. Overcoming municipal data scarcity and incompatibility

3.1. A shift from national to local sustainability monitoring

The UN Commission on Sustainable Development (CSD, 2011) produced several versions of a set of indicators and accompanying methodologies for use at the national level to measure sustainable development. The first set in 1996 included 134 indicators arranged according to the chapters of Agenda 21 but these were reduced in 2006–2007 to 50 core indicators. These activities have resulted in elaborate overviews of the environmental, economic and social performance of states and their international institutions.

However, the actual implementation of sustainability goals occurs by means of concrete projects at the local level of the city or municipality. These may be carried out by businesses, local governments and citizens, financed by banks and other

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