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Strengthening Sustainability Planning: The City Capability Framework

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Abstract

Existing city planning and implementation processes are 'tried and tested' and have proven to be a successful means of planning and implementing large-scale infrastructure projects in cities. However an increasing interest in developing more sustainable cities has led questions about whether existing planning processes, on their own, will be able to achieve the change required to address climate change and sustainable development. At the same time a range of city sustainability indicator frameworks such as ISO 37120:2014 are being developed. These measure the performance of cities in terms of environmental aspects such as carbon emissions, waste production, pollution and water consumption as well as social and economic aspects such as economic activity and health and education. These indicators aim to report on how effectively cities address sustainability. However, these indicator systems are often divorced from actual city planning processes, such as the development of Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs) that plan infrastructure, such as energy, water, sanitation, road and public transport systems, which actually determine sustainability performance of a city.

This paper therefore proposes a City Capability Framework that strengthens the relationship between city sustainability strategy, targets and indicators and city planning and implementation process and shows how this may work through practical examples. The paper outlines how the framework can be applied, and integrated with existing planning processes within a city, through the examples from the City of Johannesburg in South Africa. Critical analysis is undertaken to identify strengths and weaknesses of the framework and make proposals for its improvement. Finally, the paper draws a number of conclusions on the applicability and effectiveness of the framework as a means of improving sustainability performance of cities and makes recommendations for further research.

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1. Introduction

A range of city sustainability indicator frameworks such as ISO 37120:2014 have been developed. These measure the performance of cities in terms of environmental aspects such as carbon emissions, waste production, pollution and water consumption as well as social and economic aspects such as economic activity, health and education. These indicators are used to report on how effectively cities are addressing sustainability and can be used to compare cities [1].

However, these indicator systems are often divorced from actual city planning processes, such as the development of Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs) that plan infrastructure, such as energy, water, sanitation, road and public transport systems, which determine sustainability performance of a city. This paper argues that in order to improve sustainability performance of cities, it is important that sustainability indicators and targets are effectively integrated, and inform, city strategy, planning and implementation processes.

This paper determines how this integration can be supported. It proposes a City Capability Framework that strengthens the relationship between sustainability strategy, targets and indicators and city planning and implementation processes and shows how this may work through practical examples. The paper outlines how the framework can be applied, and integrated with existing planning processes within a city, through the examples from the City of Johannesburg in South Africa. Critical analysis is undertaken to identify strengths and weaknesses of the framework and make proposals for its improvement. Finally, the paper draws a number of conclusions on the applicability and effectiveness of the framework as a means for achieving sustainability targets and makes recommendations for further research.

2. Objectives / Research Questions

The objective of the study is to understand the relationship between city sustainability strategy, targets and indicators and the planning and implementation processes that may be used to achieve these strategic objectives and targets. In particular, the study proposes a framework that supports improved alignment between city sustainability strategy, targets and indicators and city infrastructure planning and implementation. This framework is presented and critically evaluated in the paper in order to ascertain its potential contribution to improved sustainability planning in cities. The research questions addressed by the paper are as follows:

1. What defines sustainability strategy, targets and indicators in cities?
2. How does infrastructure planning and implementation occur in cities?
3. What is the relationship between city sustainability strategy, targets and indicators and city planning and implementation processes?
4. Can the relationship between city sustainability targets and indicators and city planning and implementation processes be improved?
5. If this relationship can be improved, can this be formalised as a framework?
6. What are the characteristics of this framework?
7. What can be learnt from this framework?