SF 2: Definition of indicators, creation of a performance measurement system for sustainability and climate change

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Beispiel:
Within the framework of the competition entitled „Zukunftsfähige Kommune“ („Sustainable Community“), 37 sustainability indicators have been defined for Freiburg and they have been used to evaluate the city in comparison with other cities ({Freiburger Verwaltung #20}). Since 2011, Freiburg has also been in the process of setting up a coherent system of indicators for sustainable development based on 12 overall development goals, each with five sub-goals.

In the context of PlaNYC, New York has defined 29 sustainability indicators, which it is continuously increasing and harmonising with targets for the year 2030 ({PlaNYC 2012 #21}).

1. Differentiated description of the key field

Indicators are measured variables or parameters to assess and describe the trend of the key problem areas of sustainable development.

Cities often define their own set of indicators that can best describe their own sustainable development. Often, aspects such as participation, education, culture, etc. are included that reflect the social dimension of sustainability.

Cities or municipalities have at their disposal a variety of existing indicator systems for sustainable development which they can use for guidance. These include, for example

- Switzerland: Cercle indicateurs ({Schweizerische Eidgenossenschaft 2013 #22})
- N-indicators of the ECOLOG Institute ({Ecolog Institut für sozial-ökologische Forschung und Bildung gGmbh 2013 # 23})
- GRI indicators ({Aachener Stiftung Kathy Beys #24})
- Urban Indicators UNHABITAT ({UN Habitat 2003 #25})
- ICLEI ({ICLEI #26})
- National Sustainability Compass ({Prof. Dr. Volker Wittberg #27})

A performance measurement system and the regular collection of indicators will allow a city to systematically pursue a sustainability strategy, derive and monitor concrete measures and align the budget towards sustainability goals

2. Reference to sustainability:

What is important is the fact that sustainability indicators are based on sustainable development objectives. Equal consideration is given to ecological, economic and social issues. Unique parameters are assigned to each area. Key objectives which can be described with sustainability indicators are:

Ecological Issues	Economic Issues	Social Issues
- Low amount of waste - Least possible amount of air pollution - Conservation of ecosystems and biodiversity - Conservation of the stock of renewable resources - Low extraction level of non-renewable resources - Improvement of environmental protection	- Uniform distribution of work - Reasonable private consumption and equipment in the households - Regional self-sufficiency that is as high as possible - Balance economic structure - Price level stability - Healthy structure of public budgets	- Uniform income and wealth distribution - High level of culture and education -Balanced population and settlement structure - Socially responsible and environmentally friendly mobility - High level of health - High level of safety

Source: Gemeinsam empfohlene Indikatoren zur kommunalen Nachhaltigkeit[1]

The definition and regular collection of sustainability indicators form the basis of municipal sustainability management.

Risk if ignored:
The systematic derivation and evaluation of measures for successful sustainable urban development is impossible if appropriate indicators for measuring are not in place. The progress and development of the city cannot be documented and proven. The risk of backsliding and of uncoordinated action increases.

Overall, a municipal performance measurement system for sustainability is vital for the efficient management and the targeted steering of urban development.

3. Relevance to industrial sectors?

Mobility:	Medium
Energy:	High
Production & logistics:	Medium
Security:	Low

1http://databases.eucc-.de/files/documents/00000205_Gemeinsame_Indikatoren_03.pdf.

ICT:	High
Water infrastructure:	Medium
Buildings:	High
Governance:	High

Brief description of the high level of importance:
Building and energy are the areas that offer the most leverage for the ecological, social and economic improvement of the city. It is important to integrate these areas with good indicators into the performance measurement system and to collect reliable data. The likelihood that urban measures will affect businesses in this area (renewable energy, building renovation, building standards, etc.) is also correspondingly large.

The field is of relevance to ICT because a variety of data can be collected via sensors and combined to create indicators. In addition, the IT-based analysis and processing of data relating to the indicators is essential.

4. Impact (positive & negative)

- Specification also makes monitoring possible
- Makes targeted sustainability management possible.
- Binds together many forces for regular collection

5. Implementation measures:

The following steps are recommended to introduce a municipal performance measurement system for sustainability:
1.) Definition of one's own development goals in the key action areas of the city (with respect to sustainability).
2.) Identification of indicators that are already being collected
3.) Screening of existing systems & selection of suitable indicators for monitoring one's own goals.
4.) Definition of one's own (additional) indicators for the sake of completion.
5.) Definition of the data collection logic for the indicators that have not yet been collected.
6.) Compilation of the final set of indicators and the commissioning of an administrative unit with the regular production of a sustainability report.

6. Actors: Who can shape things?

City administration: This is the lead agency responsible for defining, refining and compiling the indicators. Specifically: Sustainability Division, Unit or Bureau of Sustainability.
Statistical Office: This provides the major share of the data
Political sphere, citizens and city administration: They adopt overarching goals
Enterprises: They have to deliver their own data, can often make suggestions.

7. Prerequisites:

No specific prerequisites necessary.
Essential aspects of a municipal performance measurement system for sustainability:
- The levels of ecology, economy and social affairs their own indicators must be covered.
- Indicators regarding the resilience of the city system must be included.
- Data relating to the indicators must be regularly collected.
- It should be in accordance with the self-defined goals and the master plan for the sustainable development of the city and be used to regularly monitor the progress of sustainable development.

A performance measurement system for sustainability is often anchored in an administrative unit that is responsible for sustainability/climate change as a cross-cutting task (e.g. Freiburg's Sustainability Management Unit).

8. Obstacles/barriers:

- Existing administrative structures – do not allow cross-sectional analysis
- No data available
- At present, data are not regularly collected
- Lack of a reliable basis for data collection
(e.g. leaks in the water supply, uncertain emissions factor, etc.)
- Lack of capacity and/or competence within the city (administration) for regular data processing particularly with regard to sustainability

9. Indicators:

- Does a municipal indicator system for sustainability exist (y/n)?
- Does the indicator system cover the areas of ecological, economic and social affairs as well as the resilience of the city system (y/n)?
- Is the indicator system linked to the city's development goals? (y/n)
- Are the data regularly collected? (y/n)
- Are the data regularly communicated in a report? (y/n)

10. Special features/remarks:

Despite the number of indicators and performance measurement systems for sustainable urban development, there is no German or European standard according to which indicators for the municipalities are defined and data are collected in the interests of sustainable urban development.