

SUSTAINABILITY REPORTING IN EUROPEAN REGIONS

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1 INTRODUCTION

European Governments recognize the significance of coordinated sustainable actions, however, efficient tools to measure sustainability in different regions are still lacking. Therefore, it seems sensible to develop a framework for sustainability reporting (SR) in regional municipalities and companies. The framework, which is introduced in this presentation, considers the existing Global Reporting Initiative (GRI) indicators as an onset for the design of sustainability reports [1], [2], [3]. The GRI guidelines organize SR based on the “triple bottom line” i.e. they deliver indicators for ecological, economic and social performances, but the interdependency of the indicators is not yet reflected methodologically. The point of departure for an integrative framework for SR with help of a systems engineering methodology (SEM) is thus fourfold: to define ecological, economic and social indicators and routines that allow monitoring in progress and ex post assessment of actual achievements, to harmonize different reporting practices, to adjust them to overarching national and international goals and to allow a systematized comparison of the three pillars of sustainability [4]. Measuring and improving performances is one way to come closer to the accomplishment of long-term goals. It includes the need of a consensus on significant variables usable to systematize data. A general measuring and reporting framework to meet this need is still lacking in the EU, even if today many organizations move from traditional environmental reporting schemes towards eco-efficiency reports and sustainability reporting, see Fig. 1 for different reporting levels.

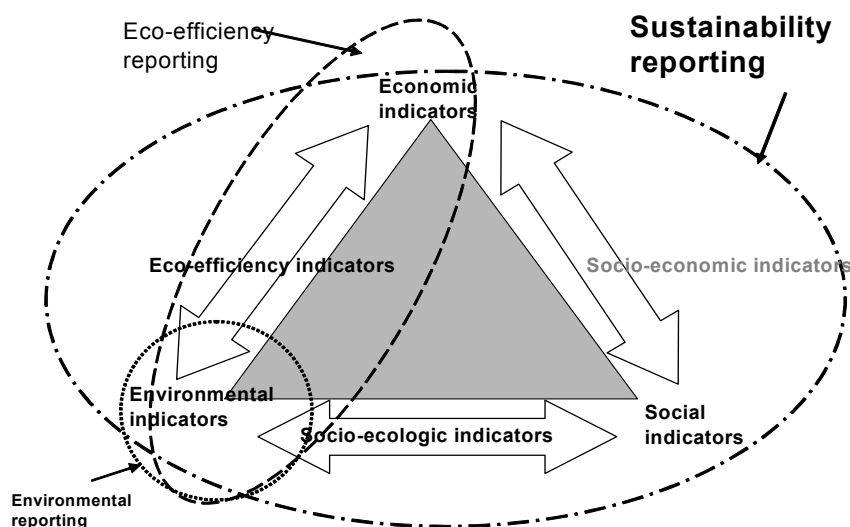


Fig. 1: Reporting at different levels

2 SUSTAINABLE DEVELOPMENT IMPACT ON POLITICAL DECISION-MAKING

Already in 1992 The Earth Summit recognized the important role that indicators can play in helping countries to make informed decisions concerning sustainable development [4]. This recognition is articulated in Chapter 40 of Agenda 21 which calls on countries at the national level, as well as international, governmental and non-governmental organizations to develop and identify indicators of sustainable development that can provide a solid basis for decision-making at all levels. Moreover, Agenda 21 specifically calls for the harmonization of efforts to develop sustainable development indicators at the national, regional and global levels, including the incorporation of a suitable set of these indicators in common, regularly updated and widely accessible reports and databases. In a political context the indicator approach in the project will help to:

1. Bring important sustainability issues to the political agenda in Europe.
2. Help to identify main trends in the target regions and organizations.
3. Better integrate environmental, economic and social concerns in the environmental planning.
4. Facilitate the preparation and monitoring of plans related to national and international standards.
5. State the concept of sustainable development in practical terms.
6. Make it possible for companies and municipalities to discuss, negotiate and adjust their priorities, aspects and indicators to each other and thus to improve the overall sustainability performance of a whole region.
7. Facilitate reporting to decision-makers and the general public.

Addressing needs for Sustainable Development requires an appropriate set of policies [5]. Usually, policy-makers translate their perception of needs into specifications for other stakeholders via different types of legislation, from the EU-level to country-, county-, community- and company level. In turn, the response of the stakeholders allows policy-makers to formulate the most appropriate feedback. Moreover, the continuing interaction between governmental, scientific, industrial and public stakeholders allows developing a comprehensive policy vision, serving as further input to policy formulation. What is indispensable, however, to keep the interaction going, is a harmonized communication tool to evaluate and discuss sustainable strategies and progress. Sustainability strategies require the development of tools applicable on municipal, regional, national and international levels. Indicators provide a universal platform for political decision makers and technology developers to estimate progress in Sustainable Development. This concerns also the sharing of databases and statistics and the communicative interaction searching for consensus on how to reach sustainability.

2 SUSTAINABLE DEVELOPMENT IMPACT ON BUSINESS

The World Business Council for Sustainable Development (WBCSD) [6] sees the following three concepts as being the “pillars of Sustainable Development.”

- Corporate Social Responsibility.
- Economic growth.
- Ecological balance.

Corporate Social Responsibility (CSR) is one key to operationalize the strategic role of business in contributing towards the Sustainable Development process. The CSR concept

meets the necessity for an organization to act accordingly to demands from the stakeholders. The UNEP Report: "Trust us"- the Global Reporters 2002 Survey of Corporate Sustainability Reporting" emphasizes the following issues, which CSR ought to improve in the future:

1. Integration of environmental and social elements into management systems and strategy.
2. Indicators to measure performances.
3. Practical guidance on reporting and disclosure.

Assurance plays an increasingly important part in many societies where companies are expected to be accountable, to perform responsibly and to report on their performance. SR has increasingly an impact on a "true and fair" view of companies' activities. Companies voluntarily commission assurance engagements on their reports because they perceive that benefits arise, both externally and internally. Users of the sustainability report are the obvious external beneficiaries of assurance but a company itself may benefit through improved public perception of its activities. Internal benefits arise where the assurance process promotes improvements, such as in control and reporting systems.

3 THE INDICATOR FRAMEWORK: PERFORMANCE INDICATORS

The GRI Indicator Framework [2] organizes the performance indicators in accordance with the following hierarchy:

- Category: The broad areas, or groupings, of economic, environmental, or social issues of concern to stakeholders (e.g., human rights, direct economic impacts).
- Aspect: The general subsets of indicators that are related to a specific category. A given category may have several aspects, which may be defined in terms of issues, impacts, or affected stakeholder groups.
- Indicator: The specific measurements of an individual aspect that can be used to track and demonstrate performance. These are often, but not always, quantitative. A given aspect (e.g. water) may have several indicators (e.g., total water use, rate of water recycling, discharges to water bodies). A pillar of the GRI framework is that aspects and indicators derive from an extensive, multi-stakeholder consultative process.

GRI performance indicators are classified along the following lines:

- Core indicators (or general applicable indicators) are those relevant to most reporters; and of interest to most stakeholders.
- Additional indicators (or business specific indicators) are viewed as leading practice in economic, environmental, or social measurements, and in providing information of interest to stakeholders who are particularly important to the reporting entity.

In addition to the sustainability indicators on economic, social and environmental aspects, a fourth dimension of information is necessary: *integrated performance*. GRI has not identified a standardized set of integrated performance indicators, but integrated measures are categorized as:

- Systemic indicators that relate the activity of an organization to the larger economic, environmental, and social systems of which it is a part. For example, an organisation could describe its own performance in relation to the overall system.
- Cross-cutting indicators that directly relate two or more dimensions of economic, environmental, and social performance as a ratio. Eco-efficiency indicators are may be the best-known, see Fig. 1 for other cross-cutting indicators.

The economic performance indicators used in eco-efficiency primarily focus on the profitability of an organisation for the purpose of informing its management and shareholders. The focus of economic performance measurement in sustainability reporting is on how the economic status of the stakeholder changes as a consequence of the organisation's activities (direct impact) rather than on changes in the financial condition of the organisation itself (indirect impact). Indirect impacts include externalities that create impacts on communities, e.g. costs or benefits arising from a transaction that are not fully reflected in the monetary amount of the transaction. A community can be considered as anything from a neighbourhood, to a country, or even a community of interest such as a minority group within a society. See Table 1 for the aspects under each category suggested by GRI. Under each aspect GRI suggested a set of core indicators and additional indicators.

Table 1: Categories and aspects for economic, environmental and social performance indicators [2].

	Category	Aspect
Economy	Direct Economic Impact	Customer Suppliers Employees Providers of capital Public Sector
Environmental	Environmental	Materials Energy Water Biodiversity Emissions, effluents and waste Suppliers Products and services Compliance Transport Overall
Social	Labour Practices and Decent Work	Employment Labour / management relations Health and Safety Training and education Diversity and opportunity
	Human Rights	Strategy and management Non-discrimination Freedom of association and collective bargaining Child labour Forced and compulsory labour Disciplinary practices Indigenous rights
	Society	Community Bribery and corruption Political contributions Competition and pricing
	Product Responsibility	Customer health and safety Products and services Advertising Respect for privacy

4 QUANTITATIVE MEASURES FOR REPORTING

The challenge is to develop quantitative measurements for ecological, economic and social development, and to communicate these with help of indicators. These are very useful for companies and organisations when they want to follow up their own performance from one year to another. However, to use the performance indicators for benchmarking between different companies, one has to be sure that the figures they are presenting are given with the same frame of references (or given within similar system boundaries). An indicator database could be useful here, similarly a generic process model (GPM) that is able to deliver an appropriate framework to harmonise indicators and reporting procedures and to measure progress towards Sustainable Development for policy decision-making. Such a framework will help organizations in European regions to perform sustainable development reporting (SDR) and create a network among different actors across Europe.

Case-studies on how to use performance indicators between different organisations within a community are performed several places, and the performance can be presented by means of simple indicators as demonstrated by Fig. 2a and Fig. 2b [7], [8].

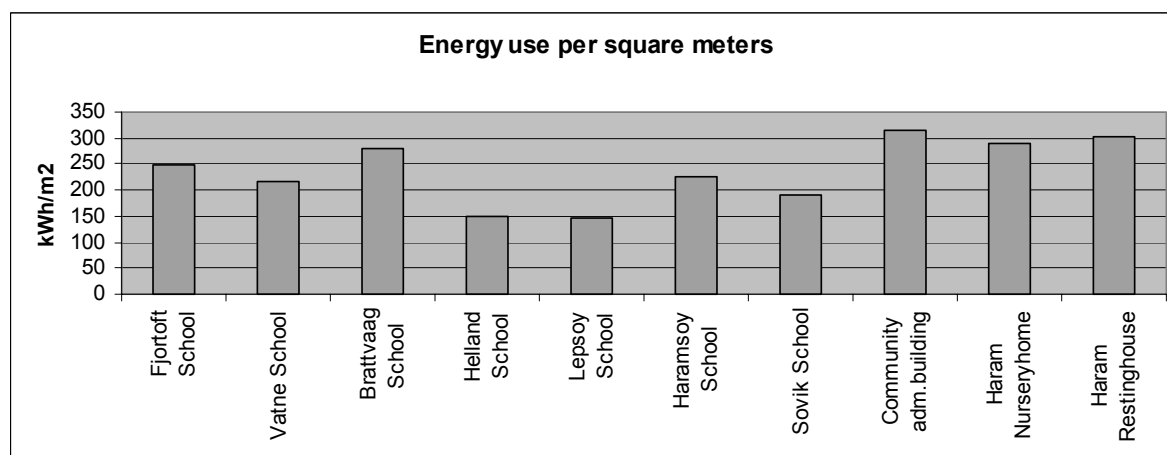


Fig. 2a. Yearly energy use per m² in the buildings owned by the community [7], [8]

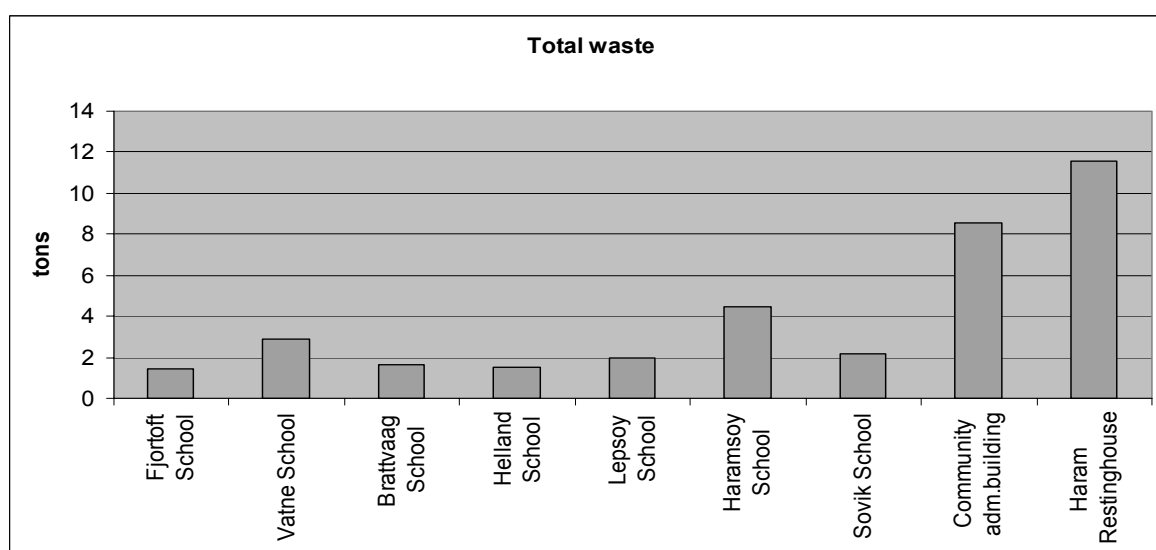


Fig. 2b: Total waste delivered from schools and other activities in the community [7], [8]

Similarly, the use of cross-cutting indicators is demonstrated by Fig. 3. The measures behind the figures are from the production company Olivin which is a producer of sand products.

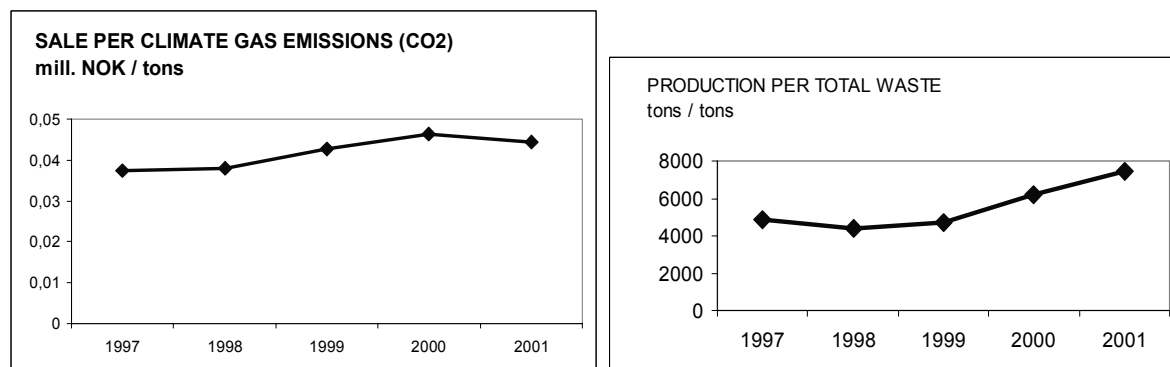


Fig. 3. Eco-efficiency indicators expressed as sale value per ton climate gas emissions and production volume per ton total waste [7], [8]

However, neither of these indicators are sustainability indicators for a region, they mainly give information about the environmental performance of a company and for waste generation and energy use in some community buildings.

5 THE SYSTEMS ENGINEERING METHODOLOGY AS A TOOL FOR SUSTAINABILITY REPORTING

The systems engineering methodology (SEM) is a useful tool to meet the multifaceted character of sustainability reporting in European Regions. Its advantage for the development of indicators is to integrate the complexity of sustainability issues with the straightforward way of measuring impacts via indicators into a synthesis. The SEM procedure consists of different steps, which are directed either to the development of a product to perform a certain function or to the development of an application to meet a particular need, namely the demand for combined indicators, realized via the development of a indicator database and a generalized reporting procedure for SR. The SEM steps can be used for achieving the optimization of this performance for the regions.

These steps include:

- the initial definition of the goal;
- the requirements to reach it;
- measurements and evaluation to verify that the requirements are accomplished.

The first thing to do while starting using the SEM-methodology [9] is to describe the system and the system boundaries; the system under study and the environment. A system normally consists of subsystems and system elements structured in a hierarchical order. The system may be a region in a country or a part of a municipality.

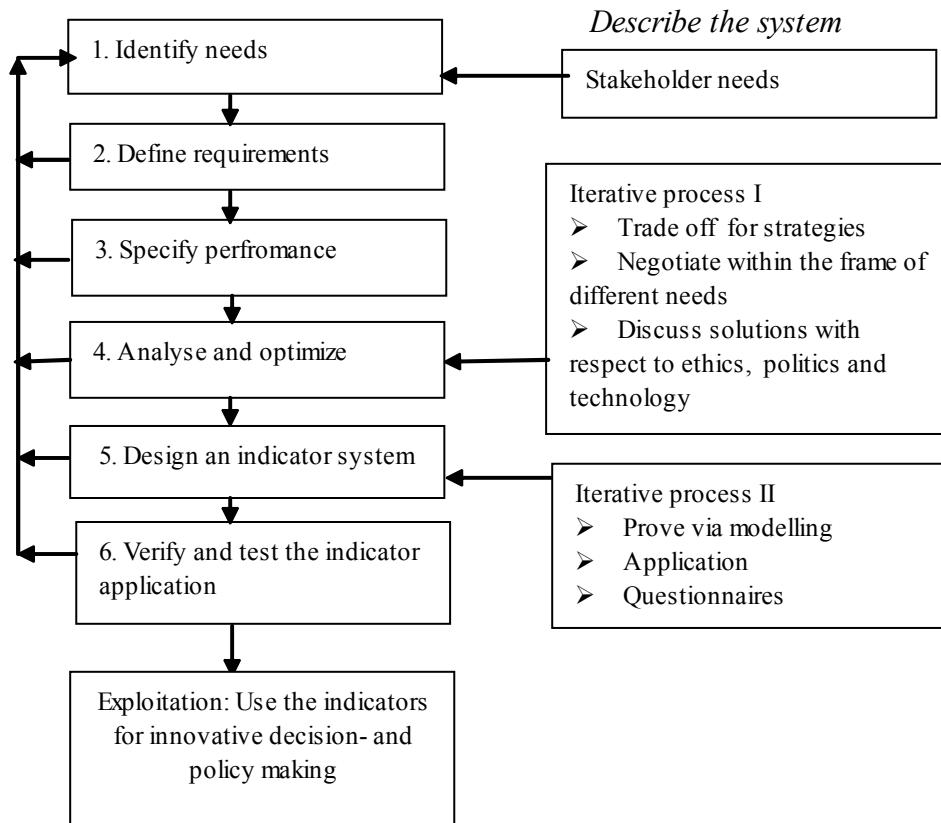


Fig. 4: The systems engineering methodology (SEM) (modified after [9]).

1. Identify Needs for indicators

The first question considers the demand itself: What is needed? The examination concerns an evaluation of the needs of organizations for indicators for technical, ecological, social, political and economic reasons, and it is rooted in the need of having an information system based on stakeholder need. This relates to the question: Why is it needed? It answers points to the question: How may the need be satisfied? In case of the development of indicators and the Sustainability Reporting of an organization the needs relate to their particular priorities for reporting on sustainability, where the first rationale will be that the indicators and the SR reflects the organizations' performances in a sensible way.

2. Define the indicator requirements

The functional, operational and physical performance requirements for the system in which the need takes place must be defined. All requirements relate to the need as well as to the accomplishment of the systems purpose. The definition of performance requirements must be assembled to each of the integrated parts of a system.

The *functional requirements* reflect the need relative to the system's ability to carry out functions. A function refers to a specific operation within the system. The functional requirements precise the question "what is needed" regarding needs of the stakeholders, the *de facto possibilities* and the overarching goal. The latter concerns the organization's ability to report towards sustainable development.

Operational requirements consider actions during the operation of the system. The operational concept includes information about distribution or arrangement, maintenance,

purpose profiles as well as effectiveness requirements, all in a long term perspective. The operational requirements comprise the organizations capacities and practices in reporting. Making indicators of different organizations comparable might be considered as an operational performance requirement.

Physical requirements are the physical conditions the system is exposed to, and it suitability system for the environment. They refer to a specific bioregion, environment and practices. These requirements answer the “how” question in the classification of the stakeholders needs. If for example transport creates a particular problem for the local environment, one physical performance requirement could be related to the behaviour of the transport system. Indicators should reflect the variety of different environments and various requirements.

3. Specify performance by means of indicators

When the requirements to a system are defined, the performance of the system and subsystems should be specified by means of indicators. The measurements containing reasonable criteria for the complete system and the subsystems will be selected. A functional analysis related to subsystems, systems elements and to the integrated parts of the system must be done. The functional analysis deduce requirements from the systems level (general applicable or core indicators) to the subsystems (additional indicators), and as far down in the hierarchical structure as necessary to identify the performance and hence the related indicators.

4. Analyse and optimise the performance of the system

Based on the specified indicators of system performances, a representative arrangement of indicator alternatives can be established. The “trade-offs” and negotiations among different actors express communication and compromises between conflicting interests order to reach a common agreement. This step covers activities like searching for a configuration, principles and applications to meet specific circumstances and the selection between indicator alternatives for being able to measure improved and optimized performance of the system.

The point is to select the best indicators possible for heterogeneous stakeholders. The use of facts, information and good reasoning from interested parties is important for the communicative part. To reach optimisation trade-offs have to fulfill one requirement themselves: the groups must be able to establish measurement and evaluation criteria for their particular satisfaction of the functional, operational and physical needs and requirements. In the optimisation phase it is important to select indicators, taking the different criteria into account, structure them to get the reporting for the region.

5. Design an indicator system and complete reporting

Based on a set of performance indicators that reflect optimization of the performance according to expectations of SD of a region, an indicator database (IDA) can be designed. By means of an IDA, a region/municipality may select the most appropriate set of indicators that reflects the stakeholder’s needs. Reporting and use of performance indicators should be completed.

6. Verify the indicator application and test the indicator use

At the end of this step the reporting system can be established as a standardized procedure being sure that all kinds of interests have been taken into account. The information given by means of the indicators can be tested according to the initial needs and requirements from the stakeholders. It should be verified that the reporting system delivers the required information and ensures that the region is improving according to overall requirements and future needs.

6 SUMMARY AND FUTURE CHALLENGES

Sustainability Reporting is not regulated by the law and the number of reports and types of measurement vary. Of special importance is to stress the WBCSD statement [6], which emphasizes that: "Until now, reporting has been a voluntary undertaking with business in control of what, how and when to report. In the future, more pressure from report users and society is likely to influence the requirements for Sustainable Development reporting as has happened with financial reporting. Yet, there is a delicate balance here between what is realistic to expect companies to report on and what stakeholders want to see reported. That's why we have given this report the subtitle 'Striking the balance'."

The possibility to meet the increased need for information by understandable, interesting and comprehensive SR and thereby make it possible to set off long-term improvements for sustainability is an attractive alternative to conventional reporting on environmental indicators [10], [11]. Before this alternative can be implemented it is, however, important to develop methods and establish cases showing that this alternative is desirable. This includes the task to involve the regions in Europe in developing an IDA that reflects the performance improvements of sustainable regions, not only system elements like single companies or parts of a municipality, organizations in using IDA and the GPM at a test level. To make the reports compatible with higher level decision making structures both in the public and private sector is an obligation, which can not be neglected. Future challenges lies on developing a common set of performance indicators for European regions that reflects possible and optimized improvement performance of those. This should be a coordinated effort among different countries.

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Fet A.M., Keitsch M.M. Sustainability reporting in European regions.

Addressing needs for sustainable development requires an appropriate set of policies. Policy-makers translate their perception of needs into different types of legislation. Indicators provide a universal platform for political decision makers to estimate progress in sustainable development. This paper gives a brief overview of the Global Reporting Initiative (GRI) as the framework for sustainability reporting (SR). It gives further an overview of the indicator systems designed for SR based on the “triple bottom line”; ecological, economic and social performances, and exemplifies this by means of a few case-results. However, indicators are very often selected from one reporter’s point of view without harmonisation among different actors in larger system, e.g. in a European region. To handle the variety and complexity in complex systems, the systems engineering methodology (SEM) is introduced. The paper illustrates how this method can be used in the process of identifying indicators, and further on how to use these for reporting purposes.

Fet A. M., Keitsch M. M. Līdzsvarotās attīstības ziņošana Eiropas reģionos.

Augošās vajadzības līdzsvarotās attīstības jomā pieprasa attiecīgu vadības sistēmu. Šādas vadības radītāji pārveido savus priekšstatus par vajadzībām atšķirīgos likumdošanas aktos. Indikatori veido universālu platformu politisko lēmumu pieņēmējiem, lai novērtētu progresu līdzsvarotā attīstībā. Šis raksts īsi iepazīstina ar globālās ziņošanas iniciatīvu kā bāzi līdzsvarotības ziņošanai. Tā turpina apskati par indikatoru sistēmām, kuras izmanto ziņas par ekoloģiskām, ekonomiskām un sociālām aktivitātēm.

Kā piemēri doti daži praktiski gadījumi. Tomēr, indikatori bieži tiek izvēlēti no viena ziņotāja viedokļa, nesaskaņojot tos ar lielākas sistēmas dalībniekiem, t.i., Eiropas reģioniem. Lai darbotos ar komplicētām sistēmām, tiek izmantota inženiersistēmu metodoloģija. Raksts parāda, kā šo metodoloģiju var izmantot indikatoru izvēlei un kā tos lietot ziņošanai.

Фет А. М., Кейтш М. М. Сообщения сбалансированного развития для регионов Европы.

Растущие нужды сбалансированного развития требуют наличия соответствующих систем управления. Создатели таких систем переводят свои представления о различных нуждах в акты законодательства. Индикаторы образуют универсальную платформу для принимающих политические решения, чтобы оценить прогресс сбалансированного развития.

Эта статья дает краткое знакомство с инициативой глобального сообщения как основой для сообщений о сбалансированности. Рассматриваются системы индикаторов, которые используют сведения из трех областей: экология, экономика, социальная область. Приведены некоторые практические случаи. Однако часто индикаторы выбираются с точки зрения одного автора, которая не согласована с участниками более крупной системы, например, регионами Европы. Чтобы иметь дело с сложными системами, применяется методология инженерных систем. Показано, что эту методологию можно использовать как для выбора индикаторов, так для формирования сообщений.