

# Exploring the Policy Use of Sustainable Development Indicators: Interviews with Finnish Politicians

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**Abstract:** After more than a decade of sustainable development indicator promotion, indicators have not been integrated into policy-making procedures as expected. Sustainable development indicators were developed in 2000 to support Finnish policy-making, but indications of their use are minimal. In 2001, a study of 41 people involved in high-level policy-making in Finland was launched, its purpose was to assess the use of indicators and the potential for increasing their use. The research method was qualitative interviews concerning selected themes.

Evaluation research use findings were used as a framework for the results. The interviews revealed that the indicators were most likely to be used conceptually as learning tools and symbolically in the political debate. Direct use in decision-making was less likely. The politicians named the most important criteria for useful indicators as reliability, simplicity, inclusion of longer trends, and comparability to other countries and regions. In addition to the indicators' characteristics, use is also affected by the ideology, information and the interests of the user and by the efforts of the developers to provide the indicators at a right time, to update them regularly, present them attractively and to ensure easy access to them. The indicator qualities, user profile and the efforts by the developer determine the type of use that prevails.

**Keywords:** Sustainable development indicators, research use, policy-making, use of indicators

## 1. Introduction

Sustainable development is a concept that has raised much discussion but very few conclusions. Some consider it an oxymoron, other find it inspiring (e.g. Mebratu 1998; Parris & Kates 2003). The fundamental problem with the most popular definition of "development that meets the needs of the present without compromising the ability of future generations to meet their needs" (WCED 1987) is the obscurity of "development".

To arrive at such development, one needs to integrate traditional policy areas. This can pose profound problems and discrepancies. In order to reach certain objectives, others may have to be compromised. For

example, the main sustainable development goal of poverty eradication and increase of wealth in the poorest nations may lead to unseen environmental consequences. Use of nuclear power decreases nation's carbon dioxide emissions, but creates an unsolved problem of radioactive waste for the coming generations. Efforts to improve public health lead to longer life expectancy which causes serious problems for national economies' pension schemes as birth rates decrease in the western countries. However, for a balanced global development, it is imperative that the different policy fields communicate with each other.

Despite the problems, sustainable development has indeed become a distinct policy area and goal. Although sustainable development is considered to materialize from environmental, economic and socio-cultural policy areas that have long traditions, there are some distinct features that complicate the matters. These relate to the temporal scale of the problems beyond policy and political cycles; spatial scales crossing traditional boundaries of policy sectors, the need to limit economic and population growth and irreversibility of development (Dovers, 1997: 309-310). Sustainable development embraces multiple sectors, values and perspectives and to make decisions to promote it as a policy area, one needs a greater stock of information compared to traditional policy areas (Hezri, 2006).

The amount of information is currently so abundant that policy makers have expressed a need to filter it into more meaningful indicators. Indicators have existed for the traditional policy areas for decades, starting with economic indicators during the early 1900s, the rise of social indicators in 1960s (Cobb and Rixford 1998) and environmental indicators from late 1980s onwards (OECD 1994), but the quest for sustainable development indicators began after the Rio Summit in 1992 with the call of Agenda 21 for all nations to produce information to monitor sustainable development (UNCED 1992).

Today many sustainable development indicators (SDIs) are developed at all levels of society — local, regional, national and international. Yet SDIs are rarely used routinely to influence decision-making, which is a cause for widespread concern (Rydin *et al.* 2003; Hezri 2004; Hall 2005). Most efforts to develop SDIs have focused on the frameworks and follow-up on the actual use has been largely ignored (Pinfield 1996; Rydin *et al.* 2003). Good examples of local and regional use of SDIs have been presented (e.g. Mickwitz *et al.* 2005), but national level exercises have been less successful.

According to Hall (2005), the fundamental problem is that the principal role of national SDIs is communication to the public and politicians, who may not require much detail. Furthermore, most indicators provide only a broad overview of an issue and are of little use for detailed policy considerations. The current indicator sets are also either too complex for policy formulation, and thus more useful for experts

and politics implementation, or, even too simplified (Spangenberg 2002).

There are indeed some clear shortcomings to SDIs. The processes are technocratically driven (e.g. Rosenström and Kyllönen 2006), direct use is lacking even when the indicators are specifically developed to monitor certain programmes (Gudmundsson 2003), and basic problems like time lags (Rosenström and Lyytimäki 2006) further impair the usefulness of indicators. However, rather than concluding that SDIs have not filled their purpose if no use is detected, it might be worthwhile to broaden the concept of use.

Gudmundsson (2003) analysed the use of the European Union's Transport and Environment (TERM) indicators using the evaluation research literature. He concluded that there is little direct use of the indicators even if developed to assist directly in EU transport strategies. He concluded from his document analysis that use of the indicators was symbolic. This paper will build on Gudmundsson's work and answer his call for more qualitative methods to assess the use of indicators.

## 2. Typology of Indicator Use

Studies on evaluation research use date back to the 1960s. Weiss (1979) recognized that research decision-makers seldom use findings as intended. Instead, they seem to assimilate the information, but the impacts of it may be detected only years later. The evaluation research currently recognizes at least five types of research use, namely instrumental, conceptual (or enlightenment), symbolic (or political), process, and imposed (Weiss *et al.* 2005). Some of these can be divided further, but here I will use these five to classify SDI use in policy-making.

Instrumental use is what the early evaluators often expected. It refers to using research as a basis for action to change behaviour or action (Johnson 1998). More concretely, research findings are used to make direct decisions about changing programmes (Shadish *et al.* 1991). According to Weiss *et al.* (2005), pure instrumental use is uncommon. Most decisions are based on a variety of issues and research recommendations alone seldom precipitate change.

The conceptual use of research findings refers to slower changes in the user attitudes or ideas as a

consequence of reading about the results. The policy-makers consider research and evaluations studies useful, even when there was no immediate action to implement them (Weiss 1979). Enlightenment may then indirectly affect a decision later on, but it will be more difficult to trace the impetus for certain views. Conceptual use has also been described as education or organizational learning or cognitive processing. As a form of research use, it has been found to be the most important effect of research on and evaluation of policy (Weiss *et al.* 2005).

Symbolic use occurs when research is used to justify what policy makers want to do. The new information is used to persuade others, an activity central to politics (Patton 1997). The object of persuasion may be other politicians, civil servants or voters. The symbolic use of research findings may be very direct, or the information may be refined to suit the politicians' own views. In extreme cases, findings can be misused by distortion or the omission of significant elements (Weiss *et al.* 2005).

Process use occurs with people involved in the research or evaluation process changing their behaviour or understanding (Patton 1997). According to Johnson (1998), process use involves learning to think like the scientist, leading to several benefits such as increased use of evaluation procedures and increased confidence in and sense of ownership of the results. There are views that process use is not comparable to the first three, as it reveals more how the influence arose (Weiss *et al.* 2005), and it also overlaps partially with instrumental and conceptual use (Johnson 1998).

Imposed use was introduced by Weiss *et al.* (2005) to evaluate utilisation in order to describe the mandatory use of research. This would be relevant in situations where authorities are requested to make a decision based on evaluation results. The use of SDIs to assess the success of a sustainable development strategy can be considered as a type of imposed use if the monitoring is legally binding.

### 3. Materials and Methods

#### 3.1. The Finnish SDI Process

Finland published its first national set of SDIs in 2000 (Rosenström and Palosaari 2000) using 83 indicators to monitor the three dimensions of SD. The main target groups of the SDIs were policy-makers and the public.

The process began in 1998 with the foundation of an inter-ministerial expert group (for a detailed process description, see Rosenström and Kyllönen 2006). Altogether representatives of 11 different ministries and research institutes attended several meetings to identify the suitable indicators. The starting point of the work was the Finnish Government's Strategy for Sustainable Development (MoE 1998), although the adapted framework for the indicators was considerably more holistic.

The work proceeded by selecting first the essential issues to be monitored and indicators were chosen only after that. A number of experts and civil servants were consulted in 1999 about the choice of the indicators and their comments led to a revision of about 1/3 of the indicators. A notable feature of the Finnish work was that the potential indicators were always presented with data, which helped the analysis and ensured data availability.

The sustainable development indicators were published in April 2000 in both paper and electronic (PDF) formats in three languages (Finnish, Swedish, and English). A website for the indicators was also launched presenting each indicator on its own page.

Indications of the use of the indicators were received through user statistics of the Internet site of the indicators. Interest in the indicators was modest; between April 2000 and May 2002 the number of downloads was approximately 260,000. Over half of the downloads were from the Finnish pages (62 %) (Heinonen *et al.* 2005). Direct contacts from citizens or politicians were less than ten. Hence it was deemed necessary to consult some of the intended end-users before the 2002 updating and revising of the indicators. Besides new insights to how policy makers and politicians are willing to use the indicators, the interviews enabled concrete improvements to the indicators. The Finnish SDI set was re-organ-

ized and presented only as an Internet publication in 2004. New products such as presentation packages and leaflets on specific issues were also produced.

### **3.2. Materials**

To collect feedback on the update of the indicators, 38 people closely involved in Finnish politics were interviewed in 2001-2002. They represented three different groups: Politicians who were Members of the Finnish (MP) or European Parliaments (MEP), their assistants and senior civil servants working closely with the politicians (mainly Permanent Secretaries of the Ministries). The first group therefore described their opinions of the indicators while the other two assessed the use made of them by the first group.

The politicians were on two parliamentary committees: The Environment Committee and the Committee for the Future. Their interviews were conducted in two parts: first the indicator work was presented to the Parliamentary committee, then those present were interviewed. The first presentation was given to the Environment Committee before a committee session with only seven politicians present. All were interviewed, as was the Committee Secretary and five assistants. The committee deals with housing, planning, building, waste management, environmental protection and nature conservation.

The Committee for the Future allowed the presentation to be given during a committee session. Twelve MPs were present, and were all interviewed later. The committee is involved with development models, future research and the evaluation of the social consequences of technological development and technology.

A Finnish MEP and the Minister for the Environment both from the Green Party were also interviewed. They had been provided with the indicator set when it was launched.

In Finland, 13 ministries manage strategic and financial planning, law preparation, research and development, monitoring, international affairs and government owned property under each specific sector. The ministries also govern agencies, research institutes, and companies that belong to their respective sectors. Each ministry is led by a minister, closely supported by a Permanent Secretary. The Permanent Secretary is then responsible for the de-

velopment of the ministry, the strategic and financial plan, and its monitoring, likewise duties designated by the minister concerned. Ten Permanent Secretaries consented to participate.

Each member of the Finnish parliament may employ an assistant, whose duties vary from secretarial work to real information provision. All five assistants interviewed gathered information for their employers, the sources of information directly used by the politicians. Due to frequent references to the Information Service of the Parliament as a reliable source of information, the head of the service was also interviewed.

### **3.3. The Methodology**

The questions were based on four different themes and posed in random order within one theme (for the methodology, see e.g. Taylor and Bodgan 1984; Silverman 2001) in order to sustain the interview rather as a discussion. Thus, I hoped to create a more relaxed atmosphere where the politicians especially would be more frank. The themes included 1) The national set of SDIs, 2) Criteria and uses for indicators in general, 3) The use of environmental information in general with special reference to the output of the Environmental Administration, and 4) the dimensions of sustainable development in policy-making and the information society. The interviews included some twenty different questions and lasted from half an hour to an hour. The questions relevant to this paper concerned what kind of information is useful for policy-making, whether politicians can be influenced by specific information and if there has been an increase in demands for information.

The supporting Parliamentary staff, the MEP and the Minister for the Environment were asked the same questions, but for the Permanent Secretaries the questions were slightly modified. The answers were transcribed and fed into a Nvivo programme for analysis. In the analysis the answers were first coded according to the questions and then further grouped according to the two main themes which related to use: How the indicators can be used in politicians' decision-making and the criteria for useful indicators. The next section will provide the results for these two questions, preceded by an account of how the Members of the Parliament responded to general questions about SD and the significance of the different dimensions. Their view of sustainable

development gives interesting background to the answers on how indicators can be used and what are the main criteria. The uses of indicators are presented according to the most common evaluation research use categories (instrumental, conceptual, and symbolic) and they are discussed with examples in the text. The useful criteria are also presented with examples and interpretations for the reasons that make these qualities essential.

## 4. The Results

### 4.1. *Politicians' views of Sustainable Development*

Although environmental issues have been on the table for decades and much emphasis has been put on integrating environment into all sectors, the reality remains unchanged. The interviewees felt almost unanimously that economic aspects still rule all decision making processes and that the first question is always what will be the costs? Indeed, several reports indicate that economic growth (rather than welfare) currently dominates policy making in governments of the industrialized world (e.g. Pinfield 1996). MPs that have served for over 10 years admitted that environmental issues have gained ground in the political debate but it has been slower than expected. The policy makers would probably react mostly to indicators that show the socio-economic impacts of environmental pressures (Atkinson *et al.* 1997).

The interviewees were asked to name important issues that should be monitored in future with regard to sustainable development. The answers varied to a large extent, but environmental aspects emerged strongly. In fact, many politicians still saw sustainable development as being more of a green term, than encompassing social and economic dimensions as well. One of the MPs considered that to be a clear problem: "Sustainable development is seen as environmental question, and that is a problem. When we make decisions, environmental impacts are rarely mentioned. Yes, sustainable development is not seen as a large issue... ..it's a handy term used in many occasions, but when it comes to decision-making we just decide whether we have enough money... " .

Answers to specific questions about different dimensions of SD were quite difficult to obtain and varied

greatly. Questions of which issues should be monitored was difficult, ie. the MPs could not say which issues were important, which suggests that politically important issues vary often. Indeed, political pressures are the most influential determinants of the issues shaping a policy and have considerable influence over the prioritization of actions (Zandbergen and Petersen 1995). This may be linked to the perception that most political figures still act according to what they believe their voters want and therefore concentrate on more traditional issues (Hukkinen 1994).

The MPs expressed greatest concern towards the environmental questions such as climate change, quality of water, and air emissions. Consumption patterns, energy consumption and community structure were also mentioned. The main issues in economic and social dimensions were income differences, environmental taxation, unemployment, GDP, the general state of the economy, and environmental health.

### 4.2. *Uses of Indicators*

The main uses are presented in Table 1 below according to the main evaluation research use categories. However, only instrumental, conceptual and symbolic use emerged from the answers. Process use and imposed use were not considered at all.

#### 4.2.1. *Instrumental Use*

Although instrumental use is considered uncommon in evaluation research use (Weiss *et al.* 2005), indicators were considered useful as concrete tools. However, note that the answers refer to potential uses: despite visible publicising none of the interviewees could recall using the Finnish SDIs.

Concrete examples of indicator use included assessment of wider issues such as climate change, comparison of different options like sources of energy, evaluation of different strategies proposed by experts, and as a checklist of important issues. Committee members could also find indicators useful in their work of preparing laws and making statements on government proposals. Quite many mentioned indicator use in local politics, which then refers to other more specific indicator sets. SDIs may be more meaningful on the local level than as national averages.

**Table 1.** Potential uses of indicators in decision-making that emerged from the interviews.

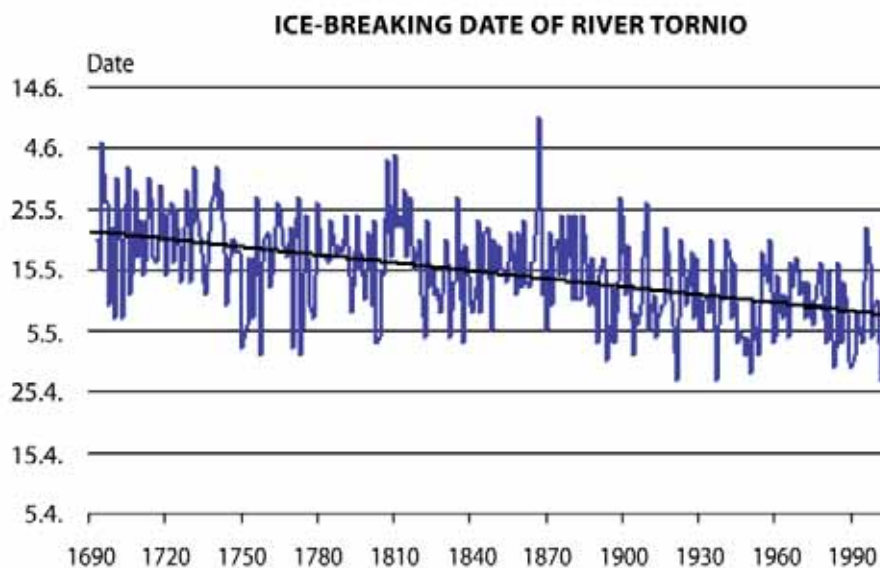
Research use types		
Instrumental use	Conceptual use	Symbolic use
<ul style="list-style-type: none"> <li>▪ Assessment of wider issues</li> <li>▪ Comparison</li> <li>▪ Decision-making</li> <li>▪ Evaluate different strategies</li> <li>▪ Checklist</li> <li>▪ Preparation of laws</li> <li>▪ Committee work</li> <li>▪ Local politics</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increase general knowledge about the state of the environment</li> <li>▪ How decisions affect the environment</li> <li>▪ Help tool</li> <li>▪ Get the big picture</li> <li>▪ Learn about useful issues</li> <li>▪ Disseminate information</li> <li>▪ Thinking tool</li> <li>▪ Easily digestible information</li> <li>▪ Provide basic facts</li> </ul>	<ul style="list-style-type: none"> <li>▪ Speech</li> <li>▪ Show trends to others</li> <li>▪ In preparation of motions, views</li> <li>▪ To justify own views</li> <li>▪ Ready made slides</li> <li>▪ To show what needs to be done</li> <li>▪ Support own views</li> <li>▪ Presentation</li> <li>▪ Reference material</li> <li>▪ Background information</li> <li>▪ Politician wants to draw attention to certain issues</li> <li>▪ Justify policies</li> </ul>

**4.2.2. Conceptual**

Politicians seemed to consider indicators a useful tool to learn about SD. They felt that browsing through the indicators would serve as a thinking tool and provide them with basic facts affecting SD. There was a general attitude that although the indicators describe all three dimensions of SD, the environmental issues were most novel to the politicians and thus most needed. Apparently information on economic and social issues is available elsewhere,

but environmental information has not earlier been condensed into suitable format.

A concrete example of conceptual use came from one of the Centre Party politicians. He was sceptical about climate change and information from the environmental administration, but said that one of the climate change indicators had made an impression on him. The indicator shows the ice-breaking date of the River Tornio having become significantly



**Graph 1.** The ice-breaking date of the River Tornio 1693-2005 – a convincing indicator. Source: Finnish Environment Institute.

earlier over 300 years. The indicator is shown in Graph 1.

The Directors General from the ministries considered the main role of indicators in policy-making to be in awareness raising and enlightenment of the politicians. They also emphasized the need for interactive communication with the politicians, as SDIs compete with a plethora of other information. For the political assistants, the indicators served as a source of exact information to accomplish assignments given by their employees.

#### **4.2.3. Symbolic**

The politicians were asked whether information and facts influence their opinions or whether they collect and read information that supports their views. A few said that it depends on the case, but most said directly that politicians have been elected to the Parliament to represent certain views, which cannot be changed. Innes and Booher (1999) have also noted that indicators do not drive policy, but can be influential in certain conditions. This means that decision-makers are willing to use them to convince others, but do not admit to being consciously influenced by researchers. This usage resembles teaching, i.e. indicators are used to teach and preach rather than to assess policies and targets (Brugman 1997).

A prominent senior politician with a ministerial post stated that “indicators do not steer decision-making but rather give material for argumentation... decision-makers need more analysis of facts and figures that tell whether we have moved in a good or bad direction”. Well-chosen indicators with time series could fill that need because he continues “if there are two views [on a less significant matter] and one is explained in a written memorandum and the other by a graph in an overhead, it may well be that the visual presentation wins. I have personally used a lot of overheads and people come afterwards and ask to copy them. They rarely ask for written papers”.

The majority of the politicians reported that they would and do use indicators in preparing speeches and presentations. They found this format of a large set of different issues very useful, as it is more likely that they can find what they need. Many of the politicians stressed the need to be credible, which connects directly to the use of indicators as political ammunition and persuasion. The frankest

replies to questions about indicator usage were that information is sought to justify and support existing views.

#### **4.3. Criteria for Useful Information**

The interviewees were asked in several different ways what kind of indicators they considered most useful for the work of policy makers and whether they could think of criteria for the indicators to be useful. Four criteria emerged above the others:

- reliability
- simplicity
- longer time trends
- comparability.

In addition, people working with politicians underlined the need for data that is

- relevant
- timely.

Reliability was deemed important in the sense that the data is retrieved from reliable sources so that the politicians can trust the indicators in the decisions or present the graphs in their speeches. For example, Statistics Finland was considered a more reliable data provider than non-governmental organizations. The scientific validity of the data was also connected to reliability.

Reliability was also seen as a question of neutrality, SDIs should not be chosen to serve a certain single-minded purpose (e.g. nature conservation, nuclear power). The indicators were seen as tools with multiple options. The policymakers preferred a multi-stakeholder approach when developing the indicators to ensure a more widely applicable end result.

The politicians also felt that facts and figures make their speeches and presentations more credible, possibly suggesting that politicians consider fact-based products more trustworthy, and the kind of material scientists should provide them with. Quoting a politician “one gets a long way here [the Parliament] with facts. The one who can present facts is taken seriously here”.

The need for longer time series was important to all politicians. Long time series enable the decision-makers to see at a glance how different issues

are developing, even if the implications of the actual parameters (tons of something, currencies) are not understood. For environmental policymaking the relevant questions will always be “Is a certain change in the environment good or bad, and how good or how bad?” More plainly, a politician said that “figures from just one year or short monitoring period are worthless”. Furthermore, “One can’t draw conclusions unless we have a long time series that shows that we are going in the wrong direction and it is time to react”, said one of the Director Generals (DG) (5.3.2002).

All the politicians and their assistants emphasised their constant lack of time and information overflow, hence the need for simple, concise information. Another reason for easily understandable indicators is that politicians have very different backgrounds ranging from professors to farmers and their prior knowledge of issues may be limited.

Clear presentation of the indicators is related to simplicity. The politicians want to be able to grasp the meaning of the indicator quickly, as their workload is immense. The indicators should be practical and user-friendly. Indicators like the “ice-breaking date of the River Tornio” mentioned earlier used to illustrate climate change or bad air quality in cities are preferred as they touch the everyday lives of the public.

The fourth clear preference expressed by numerous politicians was local and international comparison. Most politicians wanted to put the indicators into a context, i.e. the magnitude of the indicator is more easily comprehended when it is compared to the global situation. Besides international comparison, regional comparison in Finland was also deemed important.

The development into a more unified Europe requires that politicians know more about other countries and indicators were considered a useful tool in that one learns quickly what has happened and where we stand. Furthermore, there are issues with trans-boundary effects and hence international data must be added.

Local comparison provides more detailed information. A female politician pointed out that national averages hide local problems. For example, national

suicide rates may show an unchanged trend while a dramatic increase is masked by a decrease elsewhere. The need to breakdown variables by sex, age or region seems useful to politicians.

Two criteria were considered important only by civil servants, who are in some sense also information providers. The first was relevance: “currently researchers do not provide anything useful to the policymakers or the public” (21.2.2002) was claimed by one of the DGs. Indeed, indicators that do not touch current issues are likely to become background information.

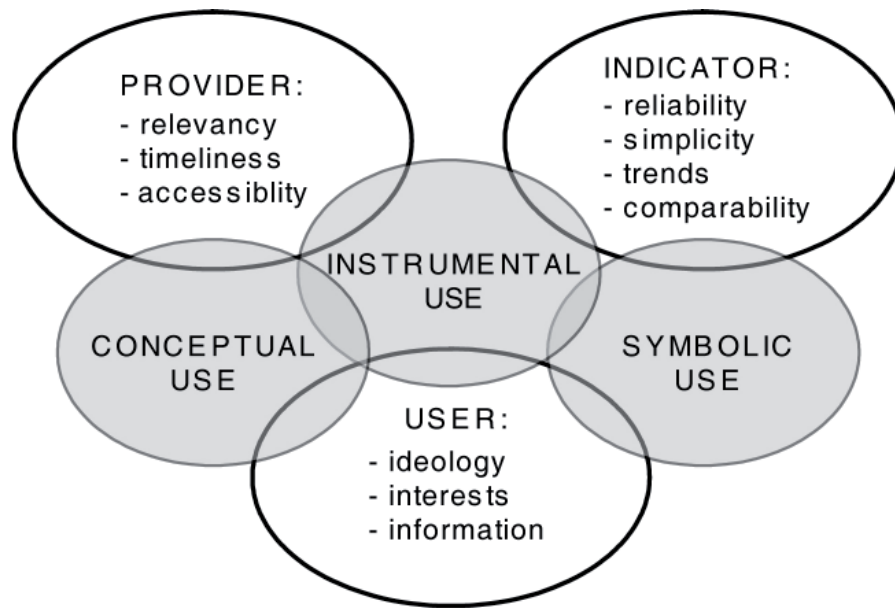
The need for timely and updated data was not explicitly expressed by the politicians, but according to the head of the parliamentary information centre, the availability of updates is crucial to the politicians. The Parliamentary Information Centre receives over 5000 requests annually. The head of it said that paper publications are tricky because “If I give this [the indicator publication] to my customer and he sees statistics from 1999, he will immediately ask for something more recent. And we start digging... an Internet service that is regularly updated would be of extreme importance to us”.

## 5. Discussion

The interviews suggest that the greatest potential use of SDIs is symbolic and conceptual, whereas direct use is less likely with the current indicators. The interviews, literature and personal experience suggest that the use of indicators is a sum of three actors; the users of the indicators (politicians), the providers of the indicators (developers) and the indicators. The criteria and relationship between the actors are presented in graph 2.

The qualities of each actor affect the way indicators are used. The direct use that most indicator developers aim at is most likely to take place when all three meet. Conceptual and symbolic use occur with limited interaction. If the “good” indicators are also vigorously presented at the right time with up to date data, they are likely to be used directly for the issue at hand. If the indicators do not conform to the criteria set for them, i.e. the politicians do not quite trust or understand them, forcefully presented indicators will still gain attention but their impact will not be immediate, and so conceptual.





**Graph 2.** Interactions of the three actors in indicator use and the types of use resulted from interaction of the three.

### 5.1. Role of the Indicators

The politicians were surprisingly unanimous in their designation of the most important criteria for useful indicators. Reliability of information was by far the most important criterion. For the developers, the essential task is to assure the users of the reliability. Reliability is especially important when the information is used to persuade others, i.e. in symbolic use. Inclusion of detailed sources of updates and clarification will increase the probability of indicator use. Credibility is increased by engaging the politicians in the process of developing the indicators. When related to the fact that sustainable development is still seen as rather vague concept, the importance reliability of the information provided by the indicators is highlighted.

The balance between having adequate information for indicator validity and keeping the indicators simple for public understanding is difficult to achieve (Morrone and Hawley 1998). However, the need to understand the indicator at one glance was obvious. Use of modern and professional presentation methods is an effective way. Efforts could also be made to name the indicators in a clear and explicit manner by creating more communicative indicators (see also Schiller *et al.* 2001). Conceptual use of indicators will benefit, as the message is conveyed quickly.

The inclusion of long time series and trends is related to easy understanding of the indicators. The politicians need to see the direction and the trend. Availability of long time series should not dominate when selecting appropriate indicators, as there may be new problems that have earlier not been measured. Hence a critical approach is needed when seeking indicators with long time series to increase use.

Besides trends, comparison to other countries gives users an immediate sense of how “we” are doing. In addition to comparison, target-like values that are based on explicit systems may give more concreteness to the indicators and ease their understanding (Olsthoorn *et al.* 2001). However, politicians seem to prefer that clear targets are excluded from indicator systems, as targets may differ according to political parties: Only commonly agreed goals such as the Kyoto targets may be included in graphs.

### 5.2. Role of the Users

The characteristics of the intended user of the indicators are decisive in whether the indicators are used and how. Most people, and especially politicians, use information for their own purposes (e.g. Silvasti 1994). Weiss (1983) proposes ideology, interests

and information as the three driving forces behind decision-making. In Parliament, ideology relates mainly to political orientation, although a person's background, principles and values also play an important role. Interests may be more ruthless: in politics decisions can often originate from self-interest in attaining greater authority, higher position or favouring certain electorates etc. Information is the knowledge base on which the politicians form their views. Information may be partial, biased or completely incorrect. Nevertheless, prior knowledge significantly influences the uptake of new information.

The three driving forces interact constantly (Weiss 1983). Ideology influences the type of interests the politician develops and the type of information he/she gathers and approves. Information is also collected to suit one's own interests. Generally the ideology did not seem to directly affect the answers, although the Centre Party members were notably more reserved about the environmental administration and its products. It has been claimed, that the parties in Finland are no longer fighting about ideology anymore, but rather trying to share important positions by practical means (Heusala 1991).

The role of interest cannot be assessed without closer relationships with the politicians. Information, and especially the role of prior information influence how indicator type of information is perceived.

The use of research is influenced by the other sources used by politicians to obtain information. These may be direct experiences, craft lore, information interaction with colleagues, consultants and advisors (Weiss 1983). The interviewees referred to voters, some said colleagues asked for copies of graphs, a few talked about owning forest or having children at university studying forestry.

Studies also show that if the research conforms to the expectations of the policymakers, it is more readily accepted and the quality of the research is less important (Florio and Demartini 1993). Although indicators are more likely to be used if they meet the criteria presented earlier, the message is always central. If the information does not suit the user's ideology, interests or match his/her prior information, the likelihood of use decreases.

### **5.3. Role of the Providers**

Too many researchers believe that developing good products is enough to get them used. On the contrary, a good product is only the beginning and the active role of the provider is essential if the indicators are to be used. Further prerequisites for use are policy relevancy, timeliness and accessibility of the indicators.

Bell and Morse (2001) state that indicators are not used because they are not policy relevant. Indeed, indicators that are not related to any policy programme or current issue have little chance of direct use, although their conceptual and symbolic use is possible if they are otherwise good. Indicators can be used for many purposes but the providers should have a specific use in mind because it cannot be assumed that indicators used for one purpose can be effectively applied for another purpose (Brugman 1997).

Lack of timely data is a significant deterrent to the use of indicators (Rosenström and Lyytimäki 2006). As symbolic use prevails, nobody wants to present opponents with old news. Besides publishing timely data, scientists should pay attention to regular updates of the indicators and carefully communicate to the users about the next updates.

Timing of the indicators is likely to be important and relates to the interest of the policymakers at the time the indicators are provided. It makes sense and it relates largely to getting the indicators used: if indicators are available at the right time and the information is new and timely, they are likely to also attract the politicians.

Scientists have long believed that their job is to provide top quality information. If the products are good, they will be used. Unfortunately availability does not mean accessibility (Morrone and Hawley 1998) and in today's world the products must be efficiently disseminated (Atkinson *et al.* 1997). It is important not only to provide the politicians with the products, but also to present them and demonstrate their use. The producers should also think how the end-user could best use the product: what size of publication and how to design the possible web solution. Active promotion will increase politician's attention to the message of the indicators and even if

they do not meet their current needs, an enlightening experience will likely be achieved.

## 6. Conclusions

According to the politicians and people working close to them, sustainable development indicators are a welcome tool to support their work. Indicators can play an important role in policy making, but their direct instrumental use is still on a hypothetical level. Currently their main value is in symbolic use in making speeches and background memos to promote selected policies. SDIs are also employed as enlightenment tools to conceptualize sustainable development.

According to the interviewees, sustainable development has been accepted as a policy area but many still emphasized the importance of economic growth. The role of indicators is therefore also to bring forth the costs and economic implications of pollution by showing how the dimensions interact. For example, eco-efficiency indicators that present the success of de-coupling of energy consumption and greenhouse gas emissions can be influential.

The main criteria for useful indicators brought forward by the interviewees are reliability, simplicity, inclusion of longer trends, and comparability to other countries and regions. The criteria are not new and they have been used as guiding principles for the Finnish SDIs. Of the four, reliability is the most important and also the most feasible to obtain. Simplicity is sought by developing the presentation methodology. Longer time trends depend on data availability, but in general time trends are quite long for the national level indicators. International comparison may pose more problems, both because of lack of comparable data and resources. Collection of international data is time consuming and multiplies the efforts needed to compile and update the indicators.

There can, however, be some interactions among the criteria that cause problems. For example, when striving at simplicity to facilitate the use, the indicator's reliability may suffer. Likewise, inclusion of international comparison often makes the graph complicated and leads to compromises in data quality. This is because monitoring methods differ in different countries and regions, which lead to com-

promises in the choice on indicators and often the best indicator cannot be used. The use of longer time trends may also lead to problems in interpretation of the message, for example deep economic recession in the 1930s caused great fluctuations to GDP which masks recent developments as the scale used for a very long time series of GDP is too wide.

Combination of evaluation research use theory with the interview results extends the traditional role of the indicators. The practitioners acknowledge that instrumental use is not the only desirably form of use, instead the other types of use may be as influential and important. The results also provide direction to future development of the indicators and insight to how to increase their use. There are two paths to enhance the use of SDIs: We can either accept that the role of indicators is conceptual and symbolic and strengthen indicator qualities that support it or we can try to thrust the instrumental use of the indicators by increasing policy relevance and links to particular strategies. Recognition that the use of the indicators is a sum of three actors needing certain conditions facilitates the task. The development of the indicators according to the needs and greater effort by the provider should be feasible, but the remaining challenge is to find those politicians willing and able to use the indicators.

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