

**STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE**

CONFERENCE OF EUROPEAN STATISTICIANS

**Joint ECE/Eurostat Work Session on Methodological
Issues of Environment Statistics
(Ottawa, Canada, 1-4 October 2001)**

**COMMISSION OF THE
EUROPEAN COMMUNITIES**

EUROSTAT

WORKING PAPER No. 31

ORIGINAL: ENGLISH

MONET EVALUATES SUSTAINABLE DEVELOPMENT IN SWITZERLAND

Paper submitted by Swiss Federal Statistical Office *

* Prepared by Peter Glauser, Swiss Federal Statistical Office, Neuchâtel

Have you heard of the French impressionist painter Claude Monet (1840-1926)? The "magician of colour" is famous for the sun-drenched, colourful landscapes and gardens in which his subjects read, play and stroll. In Switzerland it is now time for another MONET to come to the fore. In German MONET stands for Monitoring of Sustainable Development, a project which aims to use indicators to determine the sustainability of Switzerland's development. Or, to put it graphically, to discover to what extent contemporary reality reflects the painter Monet's idyllic images of humans in their environment.

At the United Nations Environment & Development Conference in Rio in 1992, Switzerland undertook to draw up and implement a policy for promoting sustainable development. The intention is to use suitable indicators to evaluate this development. The schedule for the 1999-2003 session of the legislature, the government's sustainable development strategy and the Interdepartmental Committee Rio (IDC Rio)¹ all provide for the regular production of sustainability indicators. The MONET project was launched jointly by the Swiss Federal Statistical Office (FSO), the Swiss Agency for Spatial Development (ASD) and the Swiss Agency for the Environment, Forests & Landscape (SAEFL).

Indicators for Switzerland

It is essential to develop a specific indicator system for Switzerland because the United Nations' Commission on Sustainable Development (CSD) system is not entirely suitable for monitoring in Switzerland, as was demonstrated by a pilot study by the FSO and the SAEFL in 1999. Certain areas, for example health, mobility and private sector economic activity are not covered or only inadequately covered by meaningful indicators. Moreover, the indicator typology used in the CSD system, which is based on a model developed for environmental statistics (driving-force state response), is not ideally suited to describing social and economic factors.

Information for Politicians and the Public

The system aims to provide information about the current situation and trends in social, economic and environmental aspects of sustainable development and to demonstrate Switzerland's position compared to other countries. It is designed as an information source for the public, politicians and the Swiss federal government. The system should be transparent, open and developable and should permit a certain degree of integration with sectoral, regional and local sustainable development indicator systems.

Interest in Public Opinion

Various groups consisting of representatives of federal departments, specialist statistical committees, organizations and the scientific and business world are involved in and, to a certain extent shaping this work. The involvement of these various groups with their wide-ranging specialist knowledge and varied backgrounds and interests is central to the success of the project.

¹ The Interdepartmental Committee Rio (IDC Rio) is an internal committee within the Swiss administration whose task is to implement the decisions taken at the 1992 Rio Conference.

Interpretating Sustainable Development

The first major step was to define the *concept of "sustainable development" and to put it into practical terms* (see Figure 1). This was intended to promote a common understanding of sustainable development among the various parties involved. The starting point was the Brundtland definition and its interpretation for MONET. This interpretation essentially includes the maintenance of acceptable living conditions and the widest possible range of options for defining life plans, a balance between the present generation and future generations and careful management of natural resources. The second implementational step involved focusing on three *target dimensions* while the third involved specifying the target dimensions in greater detail by means of *postulates*. The postulates are of constitutive significance in compiling the indicators because it must be possible to derive each selected indicator from at least one postulate.

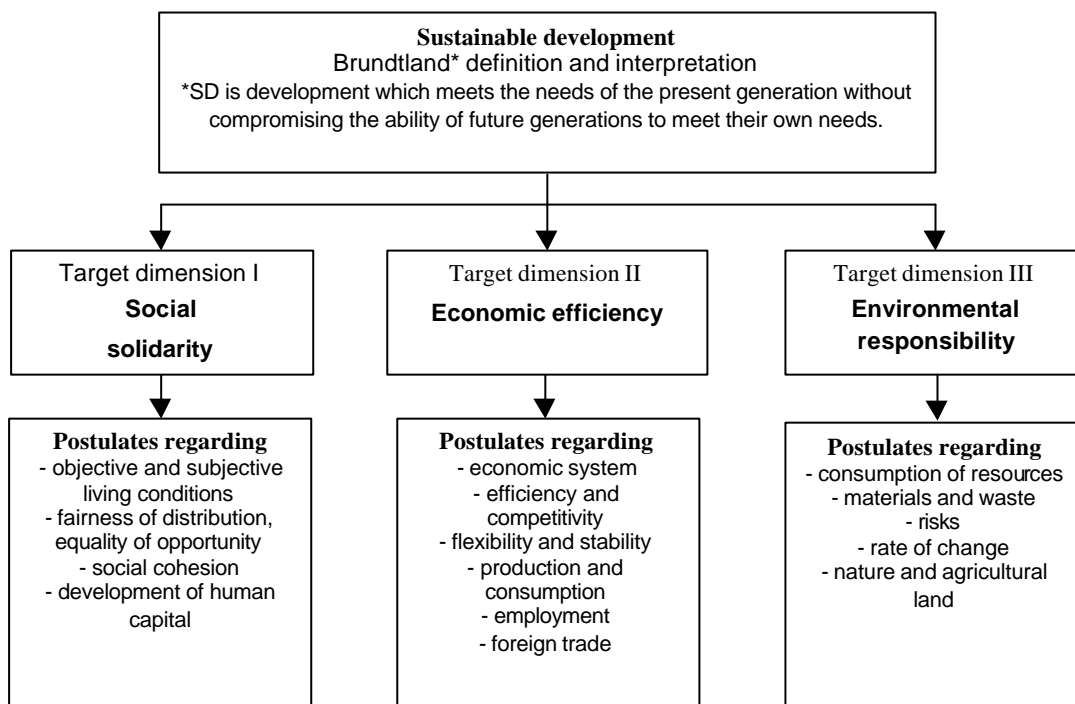


Figure 1: Implementation of "sustainable development" in MONET

The Structure of the Indicator System

Unlike a simple list of indicators, an indicator system is based on a clearly defined *structure* which provides a logical and systematic framework for selecting indicators. Both the topic-oriented approach (what content is relevant) and the process-oriented approach (mechanisms and causality) were considered important for the indicator system. These two approaches are combined in a grid. The columns of the grid correspond to five different indicator types in accordance with the *process model*, while the rows contain the *topics* which are to be modelled. The cells of the grid are filled with appropriate *indicators*.

Topic	Type of indicators				
	Level Degree to which needs are met	Capital Status and potential of resources	Input - Output Use and influence of capital	Shape Efficiency, disparities	Response Social and political measures
Mobility	Annual per capita distance travelled in km	Number of private motor vehicles Public transport infrastructure	Per capita fuel consumption in road transport	Modal split	Revenue from the heavy vehicle fee
Training	Average expected schooling	Number of places in tertiary education	Annual number of lessons given	Comparison of educational grants between regions	Expenditure on educational campaigns
Competitiveness	GDP per capita (3)	Ratio of foreign debt to GDP	Net investment	Labour productivity (GDP, working hours)	

Figure 2: The MONET indicator grid with examples

The model developed for the MONET project is based on a **stock-flow model**, which describes the dynamics of the operations which are relevant to sustainable development (Figure 3). The model has similarities with the "driving-force pressure state impact response" model² used in some indicator systems. Unlike the latter, however, it is not tailored to the requirements of environmental applications, but can also be applied to social and economic topics.

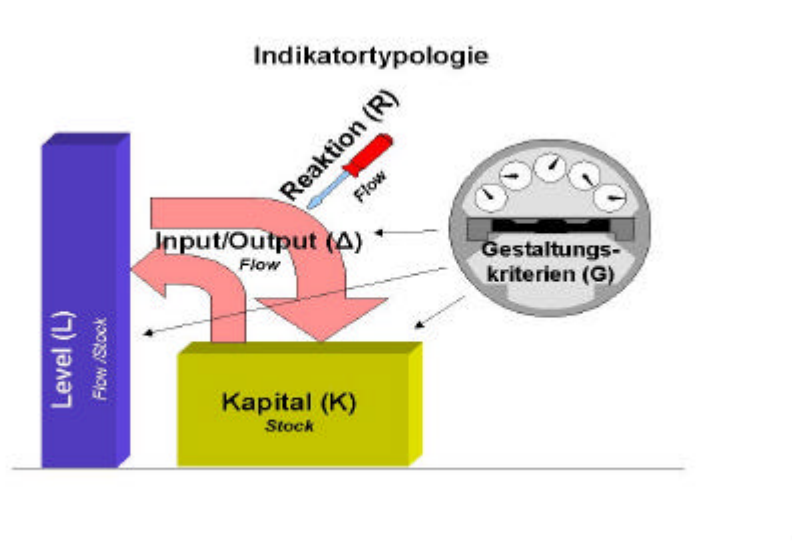


Figure 3: Indicator typology

[Key/Schlüssel: Indikatorortypologie = Indicator typology; Reaktion = Reaction; Kapital = Capital; Gestaltungskriterien (G) = Defining criteria]

² The DPSIR model is an extension of the "pressure-state-response" model developed in the 1970s for environmental applications. It is used, for example, by the European Environment Agency (EEA) for classifying environmental indicators (see European Environment Agency 1999).

With regard to Switzerland's future strategy for achieving sustainability, IDC Rio commissioned a study into the status of federal policy in terms of achieving sustainable development³. For the purposes of analysis, Swiss federal policy was divided into 25 areas. For pragmatic reasons, the MONET *list of topics* was adopted for this classification as far as possible, firstly to ensure compatibility of MONET with national efforts, and secondly to simplify the selection and production of indicators. The list of topics reflects the current approach and may be adjusted to new requirements.

TOPIC		Specific examples
1	Social security and material prosperity	Social insurance, welfare, income
2	Health	
3	Subjective living conditions	Contentment, happiness, well-being, social integration
4	Living conditions	Living space, housing quality
5	Culture and leisure	Cultural diversity, leisure time, leisure and cultural activities available
6	Social cohesion and participation	Social and political participation
7	Education and science	
8	Information	Incl. information about sustainable production
9	Physical security	War, criminality, natural hazards, high-risk technology, genetic engineering
10	Competitiveness	Innovative ability, national budget, etc.
11	Free-market control mechanisms	Prices, market instruments, regulatory framework
12	Work	Employment, working conditions
13	Research, development and technology	
14	Production	In all sectors
15	Consumption	E.g. consumption behaviour
16	Mobility	Incl. goods transport
17	Foreign trade and cooperation	
18	Materials, waste, impact	Incl. radioactive waste, noise, non-ionizing radiation (excluding atmospheric pollutants)
19	Soil	Soil use, soil fertility
20	Water	
21	Air	Atmospheric pollutants
22	Climate	
23	Landscape	Fragmentation of land, natural landscapes
24	Biodiversity	Protection of biotopes and species
25	Energy and raw materials	
26	Forests	

Figure 4: List of topics

³ Mauch Consulting, INFRAS, Ernst Basler & Partner AG (2001): Politik der nachhaltigen Entwicklung in der Schweiz: Standortbestimmung und Perspektiven. Hauptbericht. [Sustainable development policy in Switzerland: status and prospects. Main report.]

Plan for Rio+10

The next stage in the project is to fill in the indicator system grid with indicators. The indicators are being selected and compiled with the assistance of specialist departments and data producers. At the same time a concept for presenting the indicators and distributing the results is being devised.

Initial results will be published in time for the World Summit on Sustainable Development (Rio+10) in 2002 in Johannesburg.

Contact: *Dr. André de Montmollin
Federal Statistical Office
Environment Section
10, Espace de l'Europe
CH-2010 Neuchâtel
Switzerland
Tel.: +41 32 713 64 72, fax: +41 32 713 65 46
E-mail: andre.montmollin@bfs.admin.ch*

Further information on MONET:

English: [xyz](#)

French: http://www.statistik.admin.ch/stat_ch/ber02/dev_dur_f_files/fufr02.htm

German: http://www.statistik.admin.ch/stat_ch/ber02/dev_dur_d_files/dufr02.htm

Publication of the preliminary study in English:

http://www.statistik.admin.ch/stat_ch/ber02/dev_dur_e_files/indicators.htm