

# *Research Programme*

## *Evaluation of Sustainable Development*

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In the year 2000 The University of Economics and Business Administration in Vienna initiated an international research network designed to explore the field of evaluating Sustainable Development. For this purpose, projects are planned in the areas of basic research, the application of such research and the exchange of knowledge between science, evaluation practice and the authorities commissioning projects on the evaluation of sustainable development.

This paper outlines the main research questions which will be tackled in this research network over the next few years. We will define research topics to be investigated by the network on the basis of the following four problem areas:

- Problem area 1: The market for evaluating Sustainable Development lacks transparency, while demand is rising.
- Problem area 2: There is no established set of methods ("toolkit") for the evaluation of Sustainable Development, but a multitude of disciplines and approaches.
- Problem area 3: There is no common understanding of the operationalisation of Sustainable Development to be used in evaluation projects
- Problem area 4: The evaluation of Sustainable Development is part of a larger management system and presents a chance for organized learning.

A multitude of research questions arise from these problem areas, which can be summarized by the following aims:

- Development of an interdisciplinary framework to systemise present know-how available from the various disciplines dealing with the evaluation of Sustainability.
- Basic research to further develop methods for the evaluation of Sustainable Development with a view to creating a modular toolkit.
- Theoretical discussion of the paradigms of Sustainable Development and their consequences for the evaluation of Sustainable Development.
- Critical reflection on current evaluation practice through meta analysis, comparative methods analysis, country analysis and dialogues between scientists and practitioners.
- Creating a network integrating scientific research, evaluation practice and those commissioning evaluations to establish a common understanding of the evaluation of Sustainable Development
- Further development of the evaluation of Sustainable Development into an integral part of a sustainable management system which shows implementation success on different levels and contributes to a transfer of learning effects.

This research programme is to be understood as a preliminary draft and any suggestions from the members of the network are most welcome.

**Problem Area 1:**  
**INSUFFICIENT MARKET TRANSPARENCY AND RISING DEMAND**

*The evaluation of Sustainable Development is becoming more and more important, on both the national and the international level:*

- Examples on the EU level are the compulsory evaluation of the structural funds programme, the newly developed Strategic Environmental Assessment (SEA) of plans, projects and programmes as well as the discussion about evaluation in the development of the sixth environmental action programme and in the implementation of the EU sustainability strategy.
- Examples on the national level are evaluations of instruments of energy and agricultural policies and the implementation of the EMAS Regulation.
- As an example on the regional and communal level, the evaluation of Local Agenda 21 projects is becoming more and more important.

*The most important driving factor is a move in environmental policy from the sectoral and problem-oriented application of command-and-control instruments to incentive-based instruments which aim to develop integrated solutions. This means that environmental policy concentrates on goal-setting and leaves the application of instruments and funds to decentralised agents (for example, in the case of voluntary agreements or consultancy and support programmes). On the one hand, the use of public funds creates a need for public accountability and legitimisation, which results in increased demand for evaluation. On the other, the success of these new instruments of environmental policy depends to a much higher extent on individual decisions taken by those affected (for example the decision if a company should join EMAS or not) so that evaluations can be used to optimise projects, support organized learning and disseminate and share implementation experience. Therefore a significant increase in evaluation projects is to be expected within the next few years.*

*Many commissioning agencies have only little experience in awarding such projects. They rarely have the methodological knowledge required to choose the best evaluation concept and they typically have no overview of the present market of evaluators as well as different methodological approaches, their advantages and disadvantages. Since standards for evaluation (developed in the US) are not commonly used in Europe, a minimum quality standard is not guaranteed. Evaluating projects are therefore typically awarded under circumstances of great uncertainty and without objective criteria.*

*In Europe, the degree of institutionalisation among evaluators is still very low. Although societies of practitioners of evaluation exist in several European states (z.B. DeGEval, SEval, EEval etc.), there are no professional representatives and supervisory institutions yet which could guarantee a minimum quality standard. This entails the risk that unprofessional evaluations may ruin the reputation of the whole profession, a problem which is aggravated by the low barriers to market entry for potential suppliers of evaluations. Since the use of the title of “evaluator“ is not protected and there are no established “brands“, entering the market requires little investment in terms of both capital and personnel.*

Therefore, the following tasks arise for the research network:

- Basic research into the impacts of environmental policy instruments to identify the key points for their evaluation.
- Monitoring and analysis of current demand trends on the international, national and regional levels, collection of evaluation reports, conducting meta analysis and comparative country analyses.
- Participation in societies and organisations of evaluators to establish the “Evaluation of Sustainable Development“ topic and to develop quality standards for it.
- Contribution to the professionalisation of agencies commissioning evaluation projects (through guidelines, information workshops, dialogues between science and practitioners, meta analysis, conferences) and improvements in market transparency (Who-Is-Who in evaluating Sustainable Development).

***Problem Area 2: NO ESTABLISHED METHODOLOGICAL TOOLKIT FOR THE EVALUATION OF SUSTAINABLE DEVELOPMENT, BUT A MULTITUDE OF DIFFERENT DISCIPLINES AND APPROACHES***

The evaluation of Sustainable Development poses new challenges to evaluators and methods of evaluation which cannot be solved through the application of methods developed in other fields of evaluation. This can be illustrated by highlighting some of the principles of Sustainable Development:

***Integrated Approach***

- Sustainable Development aims at an integrated solution of ecological, economic and social problems. For the evaluation of Sustainable Development this means the use of multidimensional target systems and the aggregation of data from different scales and indices. For specific decisions between different options there is also the problem of aggregating data, measured on different scales, which can only partly be expressed in monetary terms. This implies the use of sophisticated and tried-and-tested methods for the evaluation and aggregation of data, the further development of which seems to us one of the most interesting tasks for the research network.
- From this follows, however, that the evaluation of Sustainable Development should only be conducted by interdisciplinary teams, which have a common understanding of the problems involved and use a common metadisciplinary language. For example, the evaluation of a communal programme may include the analysis of the environmental impact (natural science aspect), the assessment of the technologies used (technological aspect), an evaluation of how public funds were spent (economic aspect), a role analysis (social science aspect) and changes in power constellations resulting from it (political science aspect).
- Furthermore, the integrated approach offers a chance to control longer chains of cause and effect (for example using material flow analysis), and to find solutions which would be inconceivable with a purely sectoral approach (for example through networks of agents). For evaluations, this means a significant increase in complexity of the matter investigated, the deliberate inclusion of indirect effects, and a special focus on the delineations of the system evaluated. For example, when evaluating Sustainable Development in a region, one has to clarify whether the focus is to be on direct resource use only (e.g. tons of steel) or whether the side effects arising from the production of these resources (e.g. the use of energy and materials in mining) are to be taken into account as well.

### Emphasis on the Long Run

- The deliberate focus on a long-run perspective in Sustainable Development offers the chance to tackle environmental problems not only after they have arisen in the sense of damage repair, but to prevent them from arising in the first place. At the same time, however, there are the problems of a comparative scarcity of data on long-term developments (for example global climate change) and of the comparability of solutions involving different time scales. (The latter problem is only insufficiently tackled by economists applying discount rates.) Evaluations of Sustainable Development can therefore only be done if firmly based on the findings of natural sciences, must include long term effects and should be conducted repeatedly to assess the latter.

### Participation

- Sustainable Development not only addresses ecological questions, but also tries to give equal weight to social issues. This is made especially difficult by the fact that, so far, no common understanding has been developed of Social Sustainability and there is no established set of indicators to measure it. The further development of such indicators would therefore be a prerequisite for its evaluation.
- The Evaluation of Sustainable Development therefore calls for a participatory approach to evaluation in general. This could be done through participatory awarding of projects and project design (through programme steering or Local Agenda initiatives), task sharing between internal and external evaluators, or increased involvement of stakeholders in the assessment of results.
- As a result, evaluations also share some characteristics with moderations and can contribute to a change in lifestyle patterns, increased awareness, the strengthening of problem-solving capacities of various stakeholders in society and to develop vision statements of Sustainable Development.

Until now, there is no established methodological toolkit for the evaluation of sustainable development. An analysis of evaluation reports and preliminary research projects for the networks shows that *a multitude of different disciplines, approaches and methods are used*, but none of them can, individually, complete the complex task of evaluating Sustainable Development. We therefore regard it as the prime task of the research network to develop an interdisciplinary framework for the evaluation of Sustainable Development which creates a common understanding of the problem and shows the contributions that can be made by different disciplines.

From our point of view, therefore, the following disciplines or subdisciplines should be represented in the network:

Discipline	Current State of Discussion	Contribution to the evaluation of Sustainable Development
<i>Indicators of Sustainable Development</i>	Broad scientific debate about indicators (for example area-based versus mass-based indicators, multitude of individual indicators versus integration of indicators into indices). Until now, no standard set of sustainability indicators has been established. The central issue is how indicators can be better integrated into political decision-making processes.	On the one hand, indicators provide the factual basis which makes the impacts of policies, programmes and projects measurable and easier to demonstrate. On the other hand, indicators rarely give explanations as to <i>why</i> the effects or developments observed have occurred.

<b><i>Evaluations by Social Sciences</i></b>	The most important methods of social sciences used in evaluations are interviews and opinion surveys. For this purpose, researchers can fall back on detailed methodological knowledge. Methods of qualitative social research (for example narrative interviews) could provide explanations for the effects observed, but are rarely used in evaluations because the results are not representative.	Phenomena observed by social sciences (like attitudes, value judgements, opinions, decision-making bases, problem-solving capacity) are central factors determining the progress made on the way towards Sustainable development. The consideration of these phenomena is the second important data source for the evaluation of Sustainable Development, complementing indicator-based technical and (natural) science data. Furthermore, the methods of qualitative social research could give an insight into the causes of developments and effects. Also, the further development and operationalisation of the concept of Social Sustainability is a necessary prerequisite for the evaluation of Sustainable Development as a whole.
<b><i>Standards and Guidelines for Evaluation</i></b>	Originating from the U.S., the establishment of standards and guidelines for the evaluation of Sustainable Development is now also being discussed in Europe. Scientists expect this to lead to minimum quality standards, professional representation of and image protection for evaluators and higher credibility with commissioning agencies.	Most of the standards are independent of the evaluandum and therefore process-oriented. Their application can lead to a better image and relationship with commissioning agencies.
<b><i>Environmental Management Systems</i></b>	Setting up an environmental management system requires an assessment of environmental impacts, the formulation of environmental policies and the declaration of an environmental programme. External evaluators assess the system and its implementation.	The external assessment of environmental management systems is an established part of corporate environmental evaluation. and evaluations of Sustainable development can draw on this experience. Moreover, corporate controlling systems share many functions with evaluations (measuring performance against objectives, identification of weak spots, feedback). In the course of EMAS pilot projects, several evaluations have been conducted. The experience thus gained can be used for other evaluation projects.
<b><i>Instruments of Environmental Policies and Environmental Economics</i></b>	The scientific discussion about the use of instruments of environmental policy and environmental economics has a long tradition. However, until now little knowledge has been gained about the compatibility of incentives of different policies (consistency evaluation) and the specific reactions of stakeholders to the signals of environmental policies.	The increased use of market and incentive-based instruments increases the decision-making power of decentralised agents (companies, households, communities, regions). The measurement of the impacts of environmental actions must therefore be complemented with detailed knowledge about the effects of the instruments of environmental policy.
<b><i>Technology Assessment</i></b>	There are already a multitude of publications concerning evaluations of technology programmes. Occasionally, also the effects of subsidies for environmental technologies have been evaluated.	Technology assessment is a very important subtask in the evaluation of Sustainable Development, especially as indicators and standards for areas such as Cleaner Technologies and EcoDesign are still to be developed.

<b>Assessment methods (CBA, MCA)</b>	Cost benefit analyses (CBA) and multi criteria analyses (MCA) are used to aggregate multidimensional data to decide between various alternatives. Present knowledge in this area is largely quantitative.	Especially for the evaluation of Sustainable Development, the integration of data from different descriptive domains is necessary. CBA and MCA are mainly used in the preparation of decisions and ex-ante evaluations of large projects.
<b>Regional and communal development</b>	In communal development (visions for development, land use management) as well as in regional planning (transport routes and other infrastructure planning), evaluations already have a long tradition.	The compulsory evaluation of the Sustainability of EU structural funds programmes and the application of the Strategic Environmental Assessment (SEA) both increase the importance of this area of research for the evaluation of Sustainable Development. Also Local Agenda 21 projects create additional demand for evaluation.
<b>Public Administration</b>	Evaluations always take place in a political context (through the awarding of the evaluation contract, the results of evaluations and the recommendations based on them). Know-how from political sciences is mainly used in the evaluation of policies. In sciences of public administration, the use of business principles is discussed within the framework of New Public Management.	Taking the political context into account, the (natural) science-based approach to evaluations of Sustainable Development is complemented with the context of practical applications and the micropolitical strategies of the stakeholders involved. The know-how of public administration sciences is particularly necessary for the development of better policy recommendations in order to increase the efficiency of policies, programmes and projects.
<b>Participation, Moderation, Mediation</b>	Environmental Protection has a long tradition of conflict (mainly through disputes about atomic power stations and large projects). As a result, some methods of conflict resolution and involvement of stakeholders have been developed.	Sustainable Development is only possible through participation of those affected. As mentioned earlier, methods of participatory evaluation have to be developed.
<b>Meta Analysis and comparative analysis of methods</b>	In contrast to the U.S., only few meta analyses and meta evaluations have been done in Europe. Systematic comparative analysis shows the methods used, the state of the art in evaluations and the strengths and weaknesses of the methods used. Meta analyses can be used to integrate the results of individual projects into a common framework.	The evaluation of Sustainable Development should not be confined to isolated projects, but should exploit the full strategic benefits of evaluations. This can be achieved by integrating evaluations already when designing policies, programmes and projects and by coordinating the implementation of individual evaluation projects.

From this problem area, the following tasks arise for the research network:

- Development of an interdisciplinary framework for the evaluation of Sustainable Development which creates a common understanding and shows the contributions as well as the limitations of the different disciplines involved.
- Identification and addressing of open research questions resulting from this framework (basic research).
- Reflection on the tasks and problems involved in the evaluation of Sustainable Development by fostering a dialogue between basic research and evaluation practice.

- On the basis of the principles of Sustainable Development, the development of a vision statement to be used in evaluations and as a framework for meta analyses.
- Development and trial application of a toolkit to evaluate Sustainable Development, which shows the possible contributions and limitations of both available and newly developed methods.

***Problem Area 3: NO COMMONLY AGREED OPERATIONALISATION OF SUSTAINABLE DEVELOPMENT TO BE APPLIED IN EVALUATION PROJECTS***

The implementation of evaluation projects requires a common understanding and a common operationalisation of the concept of Sustainable Development. In evaluation practice, this common understanding is often assumed, although our literature research shows that there are hugely different scientific positions. The following examples show the extreme positions held in the discussion about Sustainable Development:

<b>Examples</b>	<b>Extreme Position A</b>	<b>Extreme Position B</b>
<b><i>Normative approach</i></b>	Sustainable Development means to identify natural limits and to take them into account in all societal decisions. Within this approach, ecological limitations put normative limits on economic and social activity.	The discussion of ecological problems and natural limitations is a societal process and thus to be observed without any value judgements. The normative approach of natural science cannot be justified since it is the goals of societal agents that are important.
<b><i>Dimensions of goals</i></b>	Sustainable Development aims at an equally weighted and simultaneous representation of ecological, economic and social goals (three-pillar model).	Different authors have extended the three-pillar model (adding, for example, cultural and institutional sustainability) or changed the weights given to the individual pillars.
<b><i>System boundaries</i></b>	Regionality is a natural principle which should be reflected in the concept of Sustainable Development. Therefore, all claims resulting from the guiding principles of Sustainable Development have to be fulfilled on a regional basis. Violations of system boundaries (for example through imports and exports and far-reaching indirect effects) are to be minimized. Taken to the extreme, this concept advocates regional autarky.	Through regional, national and international division of labour, higher efficiency can and should be attained (e.g. through specialisation and economies of scale). Sustainable Development therefore is a global concept, from which no demands for regional sustainability can be deduced.
<b><i>Substitutability</i></b>	Non-regenerative resources and energy sources must not be used, as their rate of regeneration (e.g. fossil fuels such as oil) exceeds the expected lifespan of mankind by far. A shift to renewable resources and regenerative energy sources is therefore indispensable.	The use of regenerative resources and energy sources can build up human capital (for example better education and higher social security) which justifies its use and can also lead to the development of new resources or the more efficient use of existing ones.

<b><i>Ability to innovate</i></b>	Most technological developments have led to a higher use of natural resources and energy, and higher efficiency could only marginally compensate for the overall growth. Since the risk potential of new technologies (nuclear power, genetic engineering) is disproportionately high Sustainable Development is associated with “soft“ and decentralised technologies or even renounces the use of certain technologies.	Only through the development of new technologies can a solution to the high use of energy and other natural resources be found. Today’s technologies only show the way to future technologies. To renounce the use of present technologies would reduce the ability to innovate and thus prevent progress towards Sustainable Development. The scarcity of resources itself and the urgency of current environmental problems will create pressure to raise the ability to innovate.
<b><i>Political Background</i></b>	Sustainable Development is a political concept which includes questions of distribution (e.g. between current and future generations or between less developed and industrialised countries). Therefore, methods are needed to balance interests of different social groups and to critically assess their wants and needs (for example the principle of subsistence).	Sustainability can best be achieved through the decoupling of the satisfaction of needs from energy and resource use (e.g. the factor-4 concept and eco-efficiency). Technological innovation may enable needs to be satisfied through qualitative growth and may thus also solve distributional problems.

In view of this diversity of positions we can expect evaluation results to be strongly biased, depending on which concept of Sustainable Development the evaluation is based on. Therefore the same evaluandum may be assessed positively or negatively according to the assumptions made. At present this problem is not adequately addressed, nor is it discussed on a meta level. In evaluation reports, these paradigmatic questions are rarely addressed and the commissioning agencies are largely unaware of the consequences of different paradigms.

From this problem area, the following tasks arise for the research network:

- Theoretical reflection on the basic assumptions underlying evaluations of Sustainable Development, with special emphasis on the consequences for the projects evaluated.
- Participation in the present scientific discussion about principles of Sustainable Development and publication of basic position papers analysing them from a meta level.
- Basic research to categorize approaches and schools of Sustainable Development and development of a model which explains the consequences of different schools of thought on the practice of evaluation.
- Comparison of different attempts to operationalise Sustainable Development through meta analysis of evaluation projects.

**Problem Area 4: EVALUATION OF SUSTAINABLE DEVELOPMENT AS PART OF A MANAGEMENT SYSTEM AND AS CHANCE FOR ORGANIZED LEARNING**

Sustainable Development aims at the integration of environmental protection into other political areas, which requires the integration of the aims of different sectoral policies. For this purpose, a cross-sectoral goal system is needed, the development and harmonisation of which calls for additional coordination. Since the number of agents involved is large, flexibility is needed and the principle of subsidiarity has to be taken into account, the process of defining these goals cannot be centralized, but local and regional agents have to be involved in the implementation of Sustainable Development. A policy of Sustainability must therefore concentrate on setting overall goals and rough guidelines and leave it to decentralised agents to decide how to attain them. Through the setting of macro goals, a framework for orientation is created for the decentralised agents, which allows closer monitoring of decentralised activities with regard to their attainment of goals. Therefore, evaluations are not only assessments of the “success“ of programmes and policies, but part of a larger sustainable management system on supranational, national, regional, communal and corporate levels, which consists of agreed goals, operationalisation, programme conceptualisation, programme implementation and feedback (=evaluation). It should lead to a more objective environmental policy, guarantees an adequate use of resources to attain goals and reduces the need for coordination on the part of the agents. Environmental policy thus becomes more rational, goal-setting becomes more similar to corporate management systems, the organisational prerequisites for the attainment of goals are created and the attainment of the goals itself is measured.

The evaluation of Sustainable Development is therefore not an isolated task to measure the effectiveness and impact of individual projects, but an organized feedback process for decision-makers in politics, business and society. The sustainability strategy which the EU is currently developing, and which is a top-down process designed to integrate environmental concerns into other policy areas, particularly requires a feedback process which...

- secures learning effects and enables the transfer of experience within and between sectors, and between different levels,
- guarantees decentralisation and subsidiarity, and therefore efficient decision-making structures,
- ensures the attainment of the goals of the superordinate level,
- provides a reference framework for the evaluation of smaller units (individual companies or projects)

In the context of Sustainable Development, evaluations are therefore not just ex-post outcome analyses, but instruments to coordinate and harmonize the goals of different agents and part of a feedback loop designed to provide information about the success of the implementation.

*From this problem area, the following tasks arise for the research network:*

- Basic research to develop a reference system for the evaluation of Sustainable Development in the sense of a multi-level “Sustainable Management System“.
- Raising the awareness of commissioning agencies of the need for an early conception of evaluations (development of indicators and monitoring as integral parts of policies, programmes and projects) instead of mere ex-post evaluations.

- Application of knowledge from the public administration sciences, controlling and organized learning to the evaluation of Sustainable Development to guarantee the application of evaluation results.
- Development of Best Practice examples of evaluations, which are integrated into the implementation of policies, programmes and projects and contribute to an accompanying learning and development process.
- Development of a toolkit for the management of evaluation projects (defining interfaces between commissioning agencies and the team of evaluators, division of tasks between internal and external evaluators, framework conditions for the application of evaluation results).

***THE PARTNERS IN THE NETWORK  
FOR EVALUATION OF SUSTAINABLE DEVELOPMENT***

From the above-mentioned problem areas involved in evaluations of Sustainable Development, a multitude of research questions arise which can be summarized as follows:

- Development of an interdisciplinary framework to systemise present know-how available from the various disciplines dealing with the evaluation of Sustainability.
- Basic research to further develop methods for the evaluation of Sustainable Development with a view to creating a modular toolkit.
- Theoretical discussion of the paradigms of Sustainable Development and their consequences for the evaluation of Sustainable Development.
- Critical reflection on current evaluation practice through meta analysis, comparative methods analysis, country analysis and dialogues between scientists and practitioners.
- Creating a network integrating scientific research, evaluation practice and those commissioning evaluations to establish a common understanding of the evaluation of Sustainable Development
- Further development of the evaluation of Sustainable Development into an integral part of a sustainable management system which shows implementation success on different levels and contributes to a transfer of learning effects.

This research programme is only a first draft. Contributions from members of the network are not only welcome, but highly appreciated. At present, the following institutions have expressed their interest in the network (the list will be updated on a regular basis):

Abma, Tineke	Erasmus Rotterdam	NL
Albrech-Struckmayr, Joachim et al.	Taurus Universität Trier	D
Beywl, Wolfgang	Universität Köln	D
Bulla, Miklos		HU
Cmejrek, Jaroslav	University of Agriculture, Praha	CZ
Duff, Gordon	Deakin University	AUS
Freimann, Jürgen	Universität Kassel	D
Gutscher, Heinz	Abt. Sozialpsychologie, Universität Zürich	CH
Hardi, Peter	IISD	CA
Hillary, Ruth	NEMA	UK
Holm, Jesper	Roskilde University	DK
Kerekes, Sandor	University of Economics, Budapest	H

Knöpfel, Peter	IDHEAP, Université de Lausanne	CH
Kuhlmann, Stefan	Fraunhofer Institut, Karlsruhe	D
Lafferty, William	ProSus, Universität Oslo	NO
Libbe, Jens	Deutsches Institut für Urbanistik	D
Luc, Malgosia	Nicolas Copernicus University, Torun	PL
Malecki, Piotr	University of Krakow	PL
Melone, Anna-Maria	Ambiente Italia S.R.L.	I
Moldan, Bedrich	Karlsuniversität Prag	Cz
Molitor, Reimar	IÖW Wuppertal	D
Mortimer, Nigel	Sheffield Hallam University	UK
Ott, Walter	Econcept	CH
Pichler-Milanovic, Natasa	Urban Planning Institute, Ljubljana	SI
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Sommer, Florian	Pastille Project, London	UK
Stockmann, Reinhard et al.	Uni Saarbrücken	D
Suter, Stefan	Ecoplan, Bern	CH
Sutter, Jan	Puls Bern	CH
Thierstein, Alain	Universität Zürich	CH
Ukaga, Okey	University of Minnesota, Minneapolis	USA
Widmer, Thomas et al.	Universität Zürich	CH
Wollmann, Hellmut	Humboldt-Universität Berlin	D
Young, William	Huddersfield University Business School	UK
Zylicz, Thomas	University of Warszawa	PL