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Administration

Implementing Evaluation in the context of Sustainable Development (I)

The Planning and Commissioning Procedure
of Evaluations with Sustainable Development
as part of a Tool Box

by

Markus E. Langer, Aloisia Schön, Michaela Egger-Steiner and Irmgard Hubauer

Abteilung für Wirtschaft und Umwelt (IUW)
Institut für Wirtschaftsgeografie, Regionalentwicklung
und Umweltwirtschaft
Wirtschaftsuniversität Wien

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Abstract

In the context of sustainable development, evaluations have particularly high relevance as complex issues have to be dealt with generally over an extended period of time. Furthermore, there is a growing demand to evaluate against the concept of sustainable development. Especially evaluations *with* sustainable development are a rather new type of evaluation, as the source of its evaluation questions and the criteria applied are rooted in the concept of sustainable development.

Sustainability of a specific project or process is often highly case specific as sustainable development is determined by many often unique issues. However, evaluations would be highly inefficient, if they would have to be newly designed in every case. Thus it is necessary to determine and utilize the major issues for evaluations with sustainable development.

This paper is part of a series of three papers – which can be used independently – that present the major common issues for evaluations with sustainable development in a Tool Box. The results presented here are based on outcomes of a research project funded by the “Austrian Science Fund”.

This paper includes the evaluation planning and commissioning procedure. It describes the steps from the idea to implementation of an evaluation with sustainable development. In the context of general requirements of evaluation planning and commissioning, the special features of evaluations with sustainable development are highlighted.

Keywords

Evaluation, Evaluation in the context of sustainable development, Evaluation with sustainable development, Tool Box, planning evaluations, commissioning evaluations

Introduction

Evaluations provide relevant information for decision makers through systematic data analysis, interpretation and judgment. Evaluations give evidence of the adequacy, performance or efficiency of projects, programs or processes. In distinction from audits, compliance with a set of standards is not the focus in evaluations. In contrast to assessments, evaluations do not result in a neutral account of the situation but in a value judgment. Depending on the type of evaluation, also recommendations for further action may be included (e.g. Rossi 1994).

Evaluations answer questions that are relevant for decision-making, referred to as evaluation questions. Evaluation results can be used for example in decisions concerning the further financial allotment of programs, the initiation of further projects of a similar type or improvements in the process and organization of an ongoing project.

Basically, any project, program, process or measure can be evaluated with regard to its compliance with sustainable development. Evaluation with sustainable development is an evaluation that applies criteria of sustainable development. The evaluation subject in this context is not limited to projects or processes explicitly designed towards objectives of sustainable development. The special requirements and qualities of evaluations with sustainable development arise from the evaluation questions and the criteria applied for the judgment.

Evaluations *with* sustainable development thus clearly differ from evaluations *of* sustainable development, where sustainable development is represented by the evaluation subject, e.g. a corporate sustainability program, but where evaluation questions and criteria focus on other issues than sustainable development, e.g. efficiency of resource use. In this case economic criteria are applied. In this perspective, evaluation of activities of sustainable development does not differ from any other economic evaluation. In this case we are referring to evaluations *of* sustainable development. For example Local Agenda 21 processes represent a potential evaluation subject, due to their participative structures of decision-making within a social and political environment characterized by traditional democratic and administrative mechanisms.

Evaluation questions for evaluations with sustainable development concern the adequacy or contribution of the evaluation subject relative to the objective of sustainable development, e.g.:

- What is the contribution of the project, program or process towards sustainable development?
- Are the structures adequate in order to contribute towards sustainable development?
- Is the design e.g. of a process suitable to contribute towards sustainable development?

Evaluating a subject with regard to sustainable development requires criteria that ensure sustainability according to present knowledge. An overview of aspects and criteria for this purpose is discussed in Langer et al. (2002). Characteristics of sustainable development encompass for example the requirement of long-term consideration, spatial interlinkage and integration of multiple goal dimensions. Fulfilling all these requirements in a comprehensive manner is impossible within a single evaluation. Thus the decisive issue is the delimitation of the system under scrutiny with regard to content, time and space. Evaluation with sustainable development also is distinct through the fact that the concept of sustainable development does not only impose technical criteria, but also implies criteria for the design of the development process.

Thus commissioning agents and various other stakeholders of evaluations face a new challenge – evaluations that integrate sustainable development into their design and orientation. Thus the authors suggest a Tool Box that can be used in this specific context. The Tool Box consists of three main parts – the **planning and commissioning tool**, the **strategic orientation tool** and the **tool for integrating sustainable development**. The Tool Box relates exclusively to evaluations that make a judgment against criteria of sustainable development – thus evaluations *with* sustainable development. On the following pages a general overview of the Tool Box will be given and part 1 of the Tool Box will be discussed in greater detail. The other two parts of the Tool Box are discussed in Langer et al. (2003b) as well as Langer et al. (2003c).

The Tool Box

The Tool Box addresses primarily clients of evaluations with sustainable development. It provides orientation and facilitation of decisions associated with such an evaluation. The Tool Box helps with defining the evaluation task as well as the use and form of the evaluation results. Strategic alignment as well as the challenges of integrating sustainable development issues in evaluation practice is also part of the Tool Box.

Evaluators are not the prime target group of the Tool Box. The Tool Box does not provide an overview of methods in the fields of data collection, analysis, assessment and interpretation. According to the respective evaluation questions of sustainable development, a broad array of methods from the social, economic and natural sciences can be applied. There also exists ample literature concerning the use of indicators and the measurement of sustainable development. The Tool Box focuses on the strategic direction and the design of the evaluation, which are prerequisites for the selection of methods.

Evaluations with sustainable development differ from other evaluations due to the evaluation questions and the evaluation criteria. In addition to that, processes of sustainable development such as Local Agenda 21 processes – which here are used as a proxy for other processes – represent specific evaluation subjects. As a consequence, a number of particular requirements have to be considered regarding the steps in the decision-making and planning process as well as the realization of the evaluation.

As a basis, the Tool Box draws on general evaluation theory and practice from other evaluation areas. In a further step, specific challenges of the evaluation with sustainable development are identified. The Tool Box points out the particular features and describes procedures to tackle the problems associated therewith. The Tool Box provides a consistent guidance from the idea to the realization of the evaluation with sustainable development.

Finally, each evaluation has to be adapted to the individual tasks. The necessity of diversity and adaptation to the individual case is generally recognized in literature (Caracelli, 2000). However, the room to maneuver that evaluators have in implementing an evaluation depends on the task of the evaluation, the resources available as well as the framework conditions. Thus it is neither aspired nor possible to provide a generally applicable procedure that is suitable for all evaluation situations (Rossi, 1994).

Despite the necessity of individual adaptation there do exist critical moments in the evaluation planning and design or the strategic alignment that are of general importance. The Tool Box aims to describe these issues for the evaluation with sustainable development and to point out options among which the best one can be chosen according to the respective situation.

The structure of the Tool Box

The Tool Box is structured along the following sections:

- Evaluation planning procedure – steps in evaluation design from the idea to implementation
- The strategic orientation of the evaluation by using a matrix
- Challenges and strategies of the integration of sustainable development issues based on a framework of sustainable development for the definition of the evaluation subject, content and evaluation criteria

The first section on the **evaluation planning and commissioning procedure** presents the critical elements in planning and designing an evaluation with sustainable development. The procedure proposes a path along the steps from the evaluation idea to commissioning and conducting the evaluation. Based upon general requirements to evaluation planning the specific features of evaluations with sustainable development are emphasized. It also introduces the content of the evaluation with sustainable development as a basis to and deduct evaluation criteria. An overview over a broad array of interpretations of the concept of sustainable development is provided, which helps to categorize the approach under scrutiny and specify the aspects that shall be subject to the evaluation with sustainable development (Langer et al., 2003a).

In a second step the Tool Box describes the definition of evaluation goals and information needs. This issue is treated in more detail in the part on the **strategic orientation** (Langer et al., 2003b) of the evaluation. It includes a matrix that helps to define the information needs

and the prospective use of the evaluation results. Furthermore this tool provides an overview of potential types of evaluations and their fields of application and facilitates the selection of the adequate type. Also the options and criteria for defining the adequate role of the evaluator are described in this context.

Finally challenges and strategies for **integrating sustainable development** derived from evaluation practice are presented (Langer et al., 2003c). The strategies were developed in cooperation with technical and scientific experts. This section focuses on finding practical and action-oriented ways to achieve the best possible evaluation results due to the impossibility of conducting a comprehensive all including evaluation with sustainable development.

The features of the Tool Box

An empirical analysis (Langer et al., 2002) has shown that persons or organizations that commission evaluations (evaluation clients) generally lack an overview of the options available for decision-making and design of evaluations. The Tool Box provides **tools for orientation and guidance** along the steps and decisions towards conducting or commissioning an evaluation.

The Tool Box...

- describes each step in the decision making process from the idea to the implementation of the evaluation from the perspective of the evaluation client
- helps define the objectives, purpose and prospective use of the evaluation – the strategic direction of the evaluation
- provides orientation among evaluation approaches
- provides guidance for the definition of the role of the evaluator
- provides orientation in defining the aspects of sustainable development to be evaluated
- helps define the evaluation criteria relevant for sustainable development
- describes challenges and strategies

Summing up the list above, the Tool Box facilitates the clarification and definition of the evaluation task or contract among the involved agents, in particular the evaluation client and the evaluator(s).

The evaluation planning and commissioning tool

The evaluation planning procedure, describes the steps from the idea to implementation of an evaluation with sustainable development. In the context of general requirements of evaluation planning and commissioning, the special features of evaluations with sustainable development are highlighted.

Evaluation with sustainable development is not just another evaluation even though, as with any evaluation, solid planning is crucial for an effective and efficient evaluation. However, some steps have particular importance in the context of sustainable development.

This paper provides guidance for the procedure of commissioning and planning an evaluation with sustainable development. The procedure describes the essential steps for decision-making before the evaluation is performed. It also helps in preparing the commissioning of an externally conducted evaluation with sustainable development.

General evaluation know-how constitutes the basis for the procedure. However, evaluation with sustainable development is also associated with particular requirements in some steps, the relative importance of some issues differs from other evaluations. These particularities are pointed out in the respective sections. The evaluation planning procedure thus contains recommendations that can be valid for evaluations in general as well as specific ones for the evaluation with sustainable development. The procedure is presented in a comprehensive way.

Figure 1 below highlights the fact that the respective steps of the procedure do not have to be followed in the order they are presented. On the contrary, the elements may be considered in recursive cycles. Nevertheless, it is important for the quality of the evaluation, that in the end none of the elements and their interrelations are neglected.

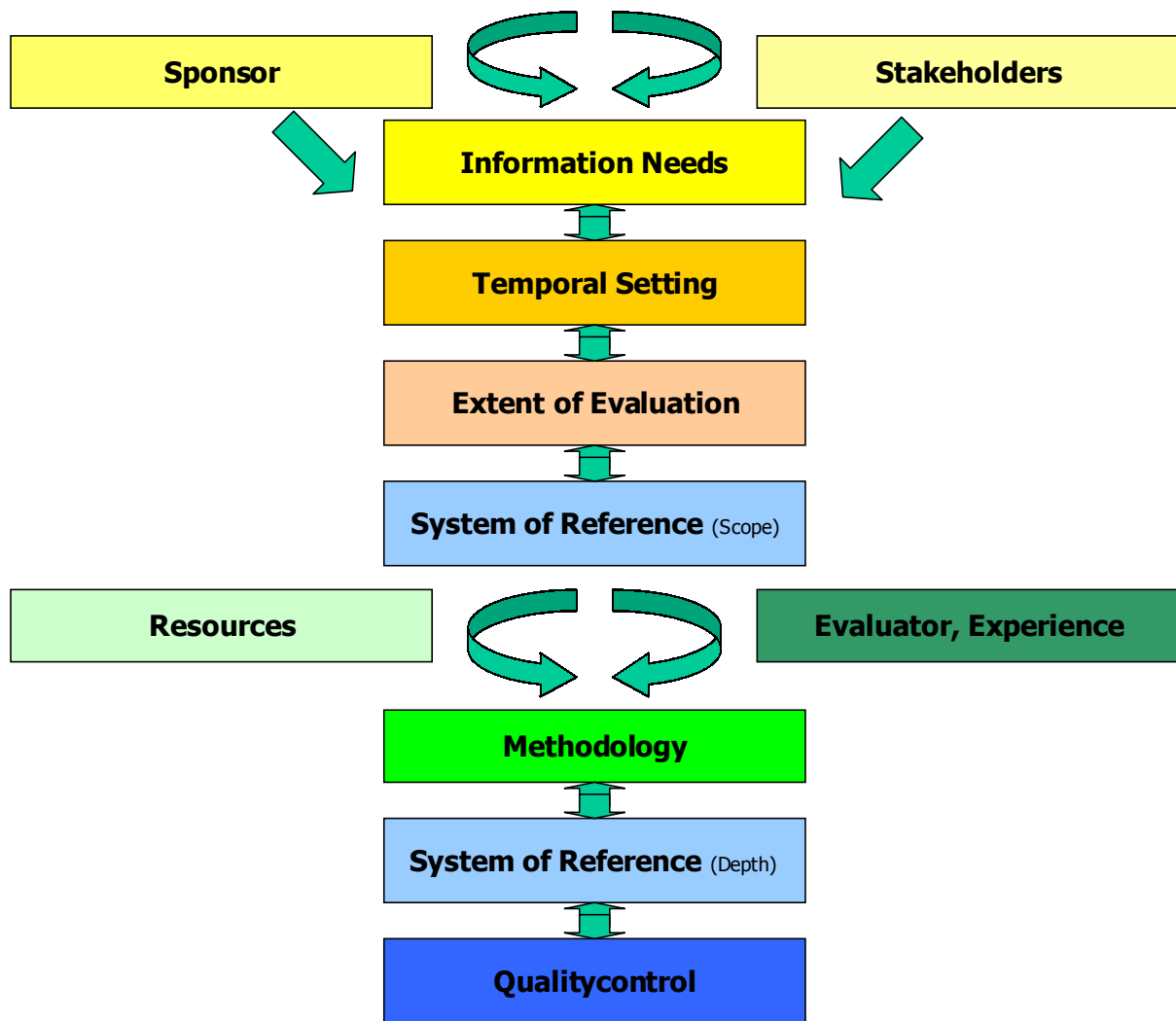


Figure 1: The planning and commissioning procedure

Evaluation client and stakeholders

This element aims at the definition of who will be invited to participate in the elaboration of the evaluation task and in further evaluation planning. The result will be an organizational structure for these tasks.

In practice it has proved recommendable that responsible persons for the future commissioning, planning and implementation of the evaluation are defined already at the outset of the initiative itself, since personal and financial resources are generally allocated in this phase, and the evaluation will require internal personnel as well as financial means.

At the very minimum, the client or the coordinator defines the evaluation task independently. Beyond that, various degrees of stakeholder participation in evaluation planning are possible. At this stage the possibilities of stakeholder participation in discussion or decision-making concerning the evaluation task need to be clarified.

In processes of sustainable development such as Local Agenda 21, the issue of collaboration and participation plays an important role. In such a context, the principle of stakeholder

participation may be applied to the evaluation process according to the general process. Participation in the evaluation planning process may take on various forms. However, it is important to point out that the decision for participative evaluation planning is not necessarily linked to participative processes or to evaluations concerning sustainable development in general. It is the context of Local Agenda 21 that may speak in favor of stakeholders participating in the evaluation.

Apart from the evaluation client, the process or project management is frequently involved in the evaluation preparation. In a participative approach, further stakeholder groups such as project staff and volunteers, people affected by the measures or other groups with various relationships towards the evaluated subject may be involved.

The term evaluation client refers to the person or organization defined in the contract as immediately responsible for financing the evaluation. In many cases, a coordinator or internal project manager is defined for the evaluation that represents the client in defining the evaluation task and has to assure the execution of the evaluation as per order.

The term stakeholder encompasses all groups of persons, that either have invested personal effort or financial means in the evaluation subject. Even though taxpayers do provide financial means for processes, projects or programs, their relationship to the evaluation subject is often deemed too unspecific to be considered as stakeholders. Yet they may represent an important target group for the evaluation results.

Consumers are those groups of people affected by measures or initiatives. In case of participative processes, consumers and participants may be identical.

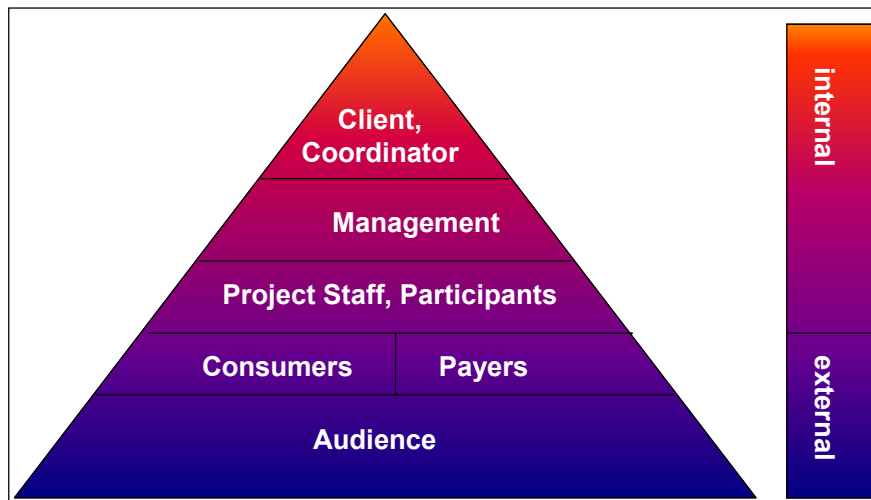


Figure 2: Stakeholders, Participants and Audience in Evaluation

The term audience refers to those persons that have an interest in the evaluation results or express such an interest. Audience may encompass a broad array of persons, for example NGOs or professional peers that are active in the relevant field (Scriven, 1991: 482).

Processes of sustainable development are distinguished by the fact that a large share of the population are consumers in terms of being affected by the initiatives and that there is a large potential audience for the evaluation results. Consequently, the evaluation may have to deal with a large number and very heterogeneous groups of affected and interested people.

In function of the desired degree of participation, further groups according to the pyramid model presented above can be involved in the definition of the evaluation task and evaluation planning apart from the immediate evaluation client or coordinator. In many cases, participation is restricted to internal groups, whereas external groups are considered as audience for the evaluation results. The involvement of further stakeholders to the evaluation is subject to a delicate process of selection and choice. However, the in depth analysis of this aspect of evaluation in the context of sustainable development was not subject of the research project.

Information Needs

Every evaluation is conducted to meet information needs for decision-making processes. The objective of an important step of the evaluation with sustainable development is thus the definition of information needs. In this step questions the evaluation will have to answer and those issues that are of relevance for the decision maker, possibly in accordance with stakeholders, are identified.

In most cases, the evaluation client first poses evaluation questions. These questions are subject to further development and dispute.

As a result of this step, there is a set of questions that the evaluation shall respond to. In this context a first draft of the data required to answer these questions will be drawn.

Typical for evaluations with sustainable development are questions of the following kind:

- How does the process, program or project in question contribute to sustainable development within a defined area?
- What progress was achieved relative to defined objectives of sustainable development?
- Are the structures in the process, program or project suitable to achieve the desired contribution to sustainable development?
- Is the process design suitable to achieve the desired contribution to sustainable development?

The evaluation questions are key in defining the objective and purpose of the evaluation. Furthermore, evaluation questions are associated with different types of evaluations. Thus, in this step, strategic decisions are taken that define the overall direction of the evaluation. The options available encompass evaluating

- Effects and efficiency
- The organizational structures operational in the process or project
- The process itself
- Stakeholder perspectives including involved and affected groups

The Tool Box includes a tool for orientation and decision-making in this respect. The matrix is presented in detail in Langer et al. (2003b).

Critical aspects in the case of sustainable development evaluations relate to the

- The data base available
- The consideration of stakeholders in the process of defining information needs

An assessment of changes and effects requires data and information on the initial state. Experience proves it to be advisable that before starting any measures a check should be performed whether sufficient data is available to assess progress at a later stage. If this is not the case, an ex-ante evaluation of the current situation may be a useful tool to provide the necessary baseline data.

Additionally, future evaluations can be substantially facilitated by an ongoing monitoring system. Monitoring provides information for the operative controlling of activities. On the other hand, monitoring makes data more readily available at key moments of the process, that evaluations can be performed faster and with less effort.

In practice this step is frequently neglected. In some cases this is due to the fact that those people who define information needs are not evaluation experts. As shown in an Austrian case study in Langer et al. (2002) the lack of initial data may render an evaluation task impossible, if they cannot be collected or reconstructed any more at the time of the evaluation.

It may be a good solution to consult evaluation experts for the evaluation planning. International organizations such as UNICEF have established such a service for project and program planners. However, this procedure will not be generally applicable in the context of local or regional initiatives for sustainable development, which dispose of minor budgets and resources.

As explained in the previous section, stakeholder participation plays an important role in initiatives for sustainable development. In the evaluation, stakeholder participation may require that apart from the client's information needs also those of the stakeholders shall be considered. Critical situations emerge if evaluation questions cannot be dealt with within the planned evaluation or if they reflect opposing interests. Thus transparency of the definition process of information needs is important.

Temporal Setting

This step deals with the time in the course of the process of sustainable development at which the evaluation is set. The evaluation time may already be defined within the project, program or process design.

In addition to that there is the possibility to recognize the necessity of an evaluation in the course of the project or process. In case of arising problems or unexpected decisions evaluations may provide the required basis for decision-making.

Sustainable development as a process takes a cyclical course. Phases of consultation and objective finding, operationalization and implementation succeed each other. Operationalization and implementation takes place in programs, projects or singular measures that have a limited duration. The process as such does not have a defined end.

With regard to programs, projects or measures, the following options for the evaluation time are available:

- Ex ante – before the beginning of implementation
- Interim – in the course of implementation
- Ex post – after completion of activities

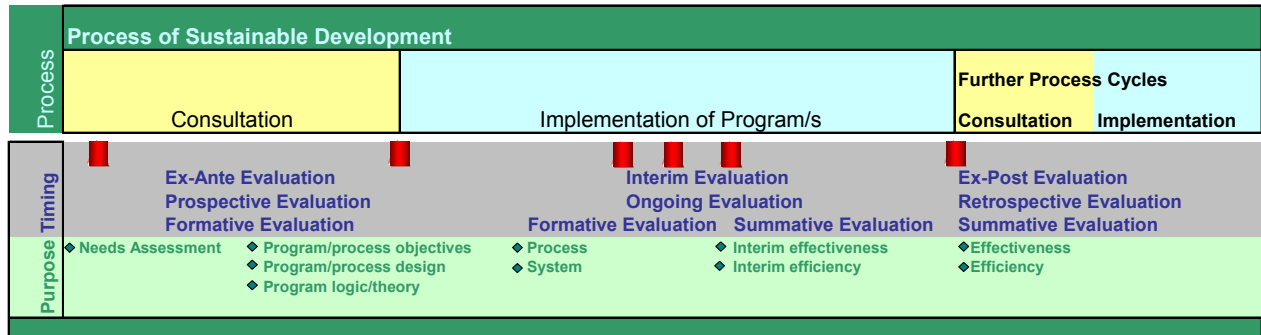


Figure 3: Process Cycle and Evaluation

Regarding the overall process, an ex-post evaluation in the strict sense is not possible, as retrospection can only relate to a singular cycle or a section of this process.

Due to the key importance of the long term perspective in sustainable development, a specific form of ex-post evaluation of programs, projects or measures gains in importance: Conventional retrospective evaluations are set at the end of the intervention. With regard to sustainability of the achieved effects, it may be appropriate to conduct an evaluation with a long interval to the final activities. Experience in the field of development cooperation emphasizes the importance of such an evaluation setting (Stockmann, 1996).

Evaluations with sustainable development have to deal with further specific challenges:

Those people participating in the initiation and implementation of projects within the framework of Local Agenda 21 are in general voluntary citizens and representatives of interest groups. In particular in the starting phase, the project management needs to enhance motivation among participants. In this context a review of objectives and first results may provoke substantial rejection among project management and participants.

Yet, ex-ante evaluations play an important role in providing a comprehensive data basis for future uses. Even more important is the examination of consistency among objectives of different political scales. Processes of Local Agenda 21 are embedded in national, regional and international strategies and policies for sustainable development. The operationalization of the concept of sustainable development on the respective political scale requires a deep analysis of the context in order to avoid conflicting objectives.

In addition to that, ex-ante evaluation is an opportunity of making participants familiar with the instrument. It is advisable to define milestones for evaluations right at the outset of the projects or programs. Communicating the benefit for participants is certainly an important issue not to be neglected.

Scope of the Evaluation

Determining the scope of an evaluation includes identifying the geographic area, type of activity, and time period that the evaluation should cover.

In the following section the necessity and basic options for the delimitation of the scope are explained. Defining system boundaries and handling complexity are major challenges for evaluations with sustainable development. This issue is dealt with in further detail in Langer et al. (2003c).

Space

Defining the evaluation area is one of the big challenges for evaluations with sustainable development. The spatial linkage of causes and effects leads to differing results in function of the respective system boundaries.

Spatial delimitation may follow the area, in which interventions take place, for instance a politically defined area. Another option relates to the area, in which the main effects of the intervention are expected. Finally, the larger the area under consideration, the more remote and indirect effects can be considered so that complexity increases accordingly. Feasibility and the availability of personal, financial and time resources will largely determine the definition of the evaluation area.

Time

In a similar manner, temporal delimitation needs attention for evaluations with sustainable development. There is a broad array of options relating to the duration of the intervention itself, the duration of the direct or indirect effects. As with spatial delimitation, viability and resources have to be considered in this decision.

Evaluation subject

The subject of the evaluation may be determined as a concrete project or a defined program. With processes of sustainable development or extensive programs it is however necessary to define the aspects that shall be considered in investigating evaluation questions.

It is a precondition for an effective evaluation that a clear operationalization of the concept of sustainable development underlying the process, program or project to evaluate is provided. In case the operationalization is not sufficiently precise and explicitly harmonized among the relevant stakeholders, it is advisable to tackle this issue at the outset of the evaluation. The “Framework for sustainable development” (Langer et al., 2002) can serve as a tool that provides orientation and helps in clarifying the relevant aspects and criteria of sustainable development.

The Framework clearly distinguishes dimensions of sustainable development and the design of the development process. This distinction is also relevant for evaluations: Evaluations of effects and process evaluations answer different kinds of questions, even though both types may be conducted within one evaluation process. Effect and process evaluations are performed simultaneously, if the cause and effect relationships between the process and project results are investigated. In principle, effect evaluations correspond to the target dimensions defined as resources and capacities in the Framework. Clearly, process evaluations cover the process aspects of the Framework. In addition to that, the Framework explicitly considers system aspects accounting for the importance of setting the system boundaries.

System properties
Integration of Systems
Temporal system boundaries
Spatial system boundaries
Dynamic change
Capacities – the material and immaterial basis of stocks to be sustained
Levels and limits
Distribution
Process aspects
Cooperation and Networking
Participation and Governance
Reflexivity

Table 1: Scope of the Evaluation

A further option is the selection of aspects that are related through cause and effect relationships. The evaluation focuses on the chain of effects and reciprocal effects of selected parameters.

Finally, practice underlines the importance of defining the evaluation subject. It proves advisable that also those issues be discussed, that shall not be subject to the evaluation.

Framework conditions, resources

Resources for performing the evaluation comprise the financial means for evaluators as well as the time required by project or program staff. Also access to information is to be seen as a crucial resource (Rossi, 1994:52).

The political process frequently determines the time frame for the conduct of the evaluation. Thus it is essential to harmonize information needs and evaluation objectives on the one hand and the results that can be achieved within the allowed time frame on the other.

Evaluator

The selection of the evaluator depends on the evaluation subject, the strategic orientation of the evaluation as well as the resources available.

The results of the analysis in Langer et al. (2002: 145ff) hint to the fact that it is not only expert knowledge of the evaluation subject but in particular technical know-how in conducting an evaluation that are important criteria.

Basically, there is an option to choose between internal or external evaluators. The evaluator's relationship with regard to the evaluation subject can take on any position between the extremes of independence, distance and objectivity on the one hand and embeddedness in the evaluated subject, personal proximity and a consciously subjective perspective on the other hand. The advantages and disadvantages related therewith are described in Langer et al. (2003b).

A further important issue in this context is the disciplinary adherence of the evaluation team. The task of evaluating social, economic and environmental issues can be fulfilled either by a single person with knowledge in all these domains, by an interdisciplinary team or a team of selected specialists with a coordinator. The issue of interdisciplinarity is dealt with in further detail in Langer et al. (2003c).

Methodology

The evaluation methodology is determined in function of the respective subject of evaluation, the evaluation questions and the resources available. From the perspective of evaluation theory, the development of particular methods for the evaluation with sustainable development is not appropriate in this context. However, it is important to discuss the driving forces that finally determine the selection of methods. In particular, Langer et al. (2003c) deals with this issue.

The system of reference: defining evaluation criteria

The selection of a system of reference aims at the transparent definition of criteria for the judgment of the evaluation subject.

The referential system is a set of standards, comparative values or targets that enable the judgment of the evaluation subject. For this purpose, either an internal or an external system of reference can be applied.

The objectives defined by participants in projects, programs or processes constitute an internal system of reference. The evaluation subject can be judged with regard to fulfillment of these performance targets and compliance with guidelines.

Official political documents constitute a system of reference that was defined outside the structures of the project, program or process. The performance targets, guidelines and standards are referred to as an external system of reference. Similarly, scientific or standardized criteria can be part of external referential systems.

Finally, the evaluator can define a set of criteria and standards on the basis of his/her knowledge and experience in order to assess the evaluation subject.

In the case of diverging systems of reference among relevant stakeholders, the Evaluation Framework provides assistance. The Framework depicts the underlying scope and depth of sustainable development that are the basis for defining evaluation criteria and indicators. The Framework helps to identify and clarify issues agreed upon and differences in perceptions. It thus facilitates discursive processes and helps to find a consensus on the relevant criteria.

External System of Reference for Agenda 21 Initiatives:

External systems of reference for local and regional initiatives of Agenda 21 relate primarily to the process design: Chapter 28 of Agenda 21 as well as the Aalborg Charta. The Aalborg Charta was accepted in 1994 by 120 cities signaling a common understanding of the challenges of sustainable development. The Aalborg Charta describes in more detail than Chapter 28 the design of participative processes as a requirement of sustainable development. However, so far only a fairly small number of cities have fulfilled the ambitious requirements, since the initiatives are embedded in traditions of political processes and national forms of governance (Lafferty, 1998).

As for the required content of Agenda 21 processes, the Charta lists the following topics:

- Protection of the countryside and building up resources
- Social equality
- Sustainable-development pattern
- Sustainable mobility
- Policy measures to reduce emissions of greenhouse gases
- Prevention of toxic emissions harmful to the environment

- Local autonomy
- Popular participation

The Aalborg-Charta was followed by the Lisbon Action Plan, which is a program of 12 principles endorsed by municipal representatives at the 2nd European Sustainable Cities and Towns Conference in Lisbon in 1996.

Key principles of the Lisbon Action Plans comprise the prime importance of the local scale for the implementation of Agenda 21, the importance of an integrated consideration of environmental, economic and social issues, the consultation and partnership with communities, networking and awareness raising within the population. Apart from the requirement of integration, all issues relate to the process aspect of sustainable development as described in the Framework.

Political systems of reference that also contain quantitative requirements on the basis of scientific findings exist for specific topics in relation to sustainable development. However, these documents rarely comprise an operationalization for the local or regional scale. As an exception, the European Water Framework Directive¹ defines technical and process requirements for the definition of local and regional management plans.

To date, there does not exist any comprehensive and operational external system of reference that could be applied to processes of sustainable development.

If an evaluation shall consider criteria of sustainable development beyond the defined internal objectives of the process, the adequate referential system has to be elaborated on a case-specific basis. In this process, the underlying concept of sustainable development plays an important role. The Framework of Sustainable Development aims to provide assistance in the development of such a comprehensive system of reference.

As shown in Langer et al. (2002: 145ff), it is important to find a consensus about the system of reference among the evaluation client, evaluators and stakeholders if relevant before starting the evaluation. The Framework also provides a basis for the discussion process associated with the harmonization of positions.

Furthermore, it is important for the quality of the evaluation to document in transparent manner, how evaluation criteria were selected and which relative weight they were attributed in the judgment. The various objectives and criteria can result in trade-offs and conflicting objectives due to the multi-dimensional concept of sustainable development. In most cases, a summative judgment in a single parameter does not account for the complex relationships that characterize sustainable development and should be duly avoided.

The Framework provides an overview of graduated approaches to the capacities, system and process aspects referred to as “depth” as outlined before. As a tool, the Framework discussed in Langer et al. (2002) is highlighted briefly on the following pages.

¹ Directive 2000/60/EC establishing a framework for Community action in the field of water policy

(For a detailed discussion of the Framework see Langer et al. 2002: 70ff)

Integrated aspects of sustainable development	
<i>Description of Aspect</i>	Sustainable development is based on the notion to consider systems thus far mostly seen as separate or even as non-relevant for the other, as being interrelated. Interrelations are case-specific while the relevance of an interrelation is mainly determined via outside referential systems.
<i>Included topics</i>	<ul style="list-style-type: none"> • System characteristics • Productivity and entropy • Diversity, resilience, retinity, feed-back and -forward, carrying capacity • Value judgments • Regulative idea
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • A partial approach to sustainable development focuses on a singular system or its constituents, for instance natural resources, but also considers some feedback mechanisms from outside the system under scrutiny.
	<ul style="list-style-type: none"> • A focused approach to sustainable development is characterized by the fact that priorities are attributed among social, economic and environmental objectives.
	<ul style="list-style-type: none"> • With a unitary approach all relevant facets of development including environmental, social and economic issues are considered in a functional and holistic way including the complex structure of effects.

Table 2: Integrated aspects of sustainable development

Temporal aspects of sustainable development	
<i>Description of Aspect</i>	An extended temporal perspective is inherent to sustainable development. There are different time-spans to be considered as for example the ecological time-cycle is rather long, while economic time spans are generally very short and social time spans are somewhere in between. Furthermore there are feedback mechanisms in place that also have different temporal scales and add to the complexity of the issue.
<i>Included topics</i>	<ul style="list-style-type: none"> • Integration of different time spans • Feedback mechanisms • Intragenerational equity
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • The time horizon can be set according to the duration of major effects caused by the respective project or processes, which often last beyond the period of interventions within the project as such.
	<ul style="list-style-type: none"> • The time-horizon can be chosen according to the system influenced by the decision. The adequate time horizon would be consistent with the time these systems need to react and to regenerate.
	<ul style="list-style-type: none"> • The time horizon is set along the concept of intergenerational equity to ensure equal opportunities for the generations to come.

Table 3: Temporal aspects of sustainable development

Spatial aspects of sustainable development	
<i>Description of Aspect</i>	It is important not only to set spatial boundaries of a system in the context of sustainable development, but again to deal with interrelations with outside systems.
<i>Included topics</i>	<ul style="list-style-type: none"> • Spatial interrelations of a system with its environment • Local and Regional Agenda 21 • Intergenerational equity
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • The spatial boundaries are set to define the area as well as immediate and limited interrelations of activity of a project, program, process or an organization.
	<ul style="list-style-type: none"> • The delimitation is including more than just the immediate area of activity and relevant interrelations with other systems outside are also considered.
	<ul style="list-style-type: none"> • The actors of a sustainable development process decide to include all far reaching interrelations especially also on the global level.

Table 4: Spatial aspects of sustainable development

Dealing with Dynamic Change and Risk	
<i>Description of Aspect</i>	A number of characteristics of sustainable development are inevitably linking the paradigm to dynamic changes and the emergence of risk. On the one hand it is the extended temporal scope and the systemic interconnectedness. On the other hand it is the uncertainty that is linked to societal decision-making on limits, trade-offs and processes.
<i>Included topics</i>	<ul style="list-style-type: none"> • Reality and necessity of decision-making and adapting to / anticipating changes within and outside of systems • Manifested risk through enlarged systemic view • Uncertainty to societal decision-making on limits, trade-offs and processes • Inclusion of values • The precautionary principle
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • Changes are being reacted to and not anticipated or proactively managed. Risk is considered to arise primarily from direct influence and is being dealt with on a local scale mainly as an issue of dread.
	<ul style="list-style-type: none"> • Changes are being anticipated and at least partly being proactively managed. Indirect effects as well as long-term issues are being considered and issues of uncertainty, risk and dread are comprehensively considered.
	<ul style="list-style-type: none"> • The precautionary principle is strictly being followed.

Table 5: Dealing with dynamic change and risk

Levels and Limits	
<i>Description</i>	Within defined system boundaries, sustainable development is based on the

<i>of Aspect</i>	<p>persistence of a certain amount and quality of stocks of natural, social and economic resources and capacities. These stocks provide flows of goods, services.</p> <p>Approaches for operationalization focus either on value, threshold levels or functions.</p>
<i>Included topics</i>	<ul style="list-style-type: none"> • Substitutability • Anthropocentric versus ecocentric valuation
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • Target values in monetary terms pose restrictions to the use of resources. Two major strategies can be distinguished, focusing either on an overall value or the value of specific resource categories. • Safe minimum standards define quantitative levels for the protection of stocks. The standards may refer to renewable and non-renewable natural resources, quality of life or economic capital. • Instead of specific threshold levels, this approach focuses on functions. As long as functions within a system can be maintained, there is scope for the use of resources.

Table 6: Levels and Limits

Distribution	
<i>Description of Aspect</i>	<p>This aspect focuses on the social system. Sustainable development deals with distributing opportunities, benefits and burdens among individuals and social groups.</p>
<i>Included topics</i>	<ul style="list-style-type: none"> • Intra-generational equity • Inter-generational equity
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • The criterion of potential compensation stipulates that for a project in question, the benefits are to outweigh the losses of other stakeholders. • An alternative approach to achieve an equitable distribution focuses on opportunities. • Finally, actual compensation and equal endowments with resources are required in this approach.

Table 7: Distribution

Capacity building through cooperation	
<i>Description of Aspect</i>	<p>The empowerment and the increase of efficiency of structure and initiatives operationalizing sustainable development can be achieved through increased cooperation and networking.</p>
<i>Included topics</i>	<ul style="list-style-type: none"> • Cooperation, Stakeholder integration and management • Networking, Knowledge networks • Inter- and transdisciplinarity
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • Simple structures like steering committees are in place. There is cooperation of only a small number of primarily directly involved persons and generally a mono-disciplinary approach is chosen. • There is cooperation of not necessarily directly involved actors on different levels and an interdisciplinary approach is being chosen. • There is cooperation of actors in a systemic way and a contextual,

	spatial as well as temporal extension of stakeholder-chains including more indirectly involved entities. The approaches are trans-disciplinary oriented and extensive knowledge and social networks are established.
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Table 8: Capacity building through cooperation

Participation and Governance	
<i>Description of Aspect</i>	Participation is a key prerequisite for governance and both for sustainable development. The concept of sustainable development is facing similar challenges governance issues are facing. On the one hand the issues touched by today's policy as well as by sustainable development are considered as being increasingly complex and hard to understand. On the other hand, both issues are seen as very important for the personal life and well-being as well as within the political realm.
<i>Included topics</i>	<ul style="list-style-type: none"> • Participation, information and responsibility • Levels of governance • Policy of sustainable development • Personal empowerment
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • Full participation is given on a case specific level. The issue of governance is only touched in a very limited way. • Full participation is possible on a local or regional level, which also contributes to new forms of governance. However, there is only limited ability to participate on other policy levels. • Integrated governance is ensured or at least seriously aimed at on various policy levels. There is an extended possibility to fully participate on all these levels.

Table 9: Participation and Governance

Reflexivity	
<i>Description of Aspect</i>	Reflexivity on the process determines system conditions of the process, will help to steer the process and support learning. Reflexivity is an important aspect to facilitate a sustainable development and to promote learning to further innovation on various levels.
<i>Included issues</i>	<ul style="list-style-type: none"> • Organizational learning • Dealing with change and adaptation • Controlling, monitoring, moderating etc. • Quantitative and qualitative approaches to evaluation
<i>Depth (Levels)</i>	<ul style="list-style-type: none"> • The measurement of the attainment of goals – generally during a process – is backing specific learning, which is facilitating particular change and development. • The provisioning of incorporated feedback structures combining quantitative as well as qualitative measures is facilitating an integrated learning process that supports a forward oriented course. • Integrated organizational learning is facilitating institutional innovation to guarantee the consistency with and of policies.

Table 10: Reflexivity

Quality assurance in Evaluations

With the definition of quality criteria for the evaluation, the utility of its results shall be assured.

The general requirements for evaluations are also valid for evaluations with sustainable development. Consequently, also the evaluation standards (Sanders, 1999) can be applied for evaluations with sustainable development. The standards describe guidelines to assure and to assess the utility, feasibility, correctness and accuracy of evaluations. The standards are based upon methodological openness, take a comprehensive approach and yet a high degree of detail, thus assuring broad applicability (Widmer, 2002).

Communication and Organizational Learning

As a prerequisite for the utilization of evaluation results, the findings have to reach the relevant people and be understood by them. The dissemination of results comprises all activities that provide access to the knowledge gained from the evaluation for the desired target groups.

It is not only evaluation design and planning, but also forms and means of communicating evaluation results that require clarification between the evaluator and the client and the involved stakeholders. Primarily, the decision makers determine what information shall be accessible to which target groups, what means of communication shall be used and the time at which results shall be communicated. Basic options are oral and written communication, ongoing and final information of evaluation results.

Evaluations for the purpose of accountability generally tend to use formal ways of communication and a strictly regulated dissemination of results. This approach can allow for feedback and provide for leeway for the consideration of reactions of relevant stakeholders.

One possibility to account for different needs of stakeholders is a two-step approach in reporting (Rossi, 1994: 406). In the first step (primary dissemination) a technical report is prepared which contains a detailed, comprehensive and exact description of the evaluation design, methods, analyses and recommendations for further investigations as well as for implementation. In general, such a technical report will be read by other evaluators and to some extent by evaluation clients, but rarely by project, program or process staff and participants.

For that reason, a second step of dissemination should be taken (secondary dissemination). Communication of results and recommendations is adapted to the information needs of the target groups. All kinds of media are available for the secondary dissemination. The only

criterion is to find the appropriate style, language and form for the respective target groups. If necessary, an expert can be consulted for this task (Rossi, 1994: 406).

With processes for sustainable development, in this step the evaluation joins another cycle of implementation or a new phase of implementation, as explained in the section on the temporal setting of the evaluation (ex-ante – ongoing – ex post).

It is at this stage of conducting the evaluation towards implementation that the results are verified with regard to their utility. For this reason, communication of results is key for the continuous and effective process of organizational learning, the adequate adaptation of objectives and thus a prerequisite for the overall success of the process for sustainable development.

As this aspect is especially linked to the strategic orientation of the evaluation with sustainable development it is dealt with in Langer et al. (2003b) in greater detail.

Concluding remarks

Judging the contribution of a project or process to sustainable development and assessing the adequacy of structures and processes for that purpose require an in depth knowledge of complex cause and effect relationships. At the current state of theory, in many fields it is still impossible to deliver valid statements on effects of measures if spatial interrelation, long time spans and reciprocal effects between social, economic and environmental systems are to be taken into account. The Tool Box cannot overcome remaining gaps in the science of sustainable development. The need for further research in these areas thus restricts the possibilities of evaluations with sustainable development.

Complexity is not only a challenge for the scientific treatment of sustainable development, it is also a problem yet to solve for evaluation methodology in this field. The judgment with regard to sustainable development across political action areas, environmental effect chains and social interactions for example pose methodological difficulties in terms of measurement, valuation and comparability.

Concerning the specific tasks of evaluations with sustainable development, the Tool Box points out suitable procedures and technical approaches for the evaluation. However, so far only little practical experience exists for some solutions and for some problems, there remains substantial need for further research. Besides, practical solutions also underlie financial and personal restrictions that further delimit the availability of options.

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