1. Evaluation of sustainable development in Europe: context and introduction

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INTRODUCTION

In this volume a glance at the current state of the art of evaluating sustainable development policies, programmes and projects (PPP) in Europe is presented. The aim is not to offer an encompassing overview of all the efforts undertaken in this respect, which even within the comparatively short historical time span of these activities would involve screening and analysing a rather sizeable volume of literature. The attempt made and reported here is rather to raise the most significant issues involved when an evaluation project is planned and carried out. The list of such issues to be considered is by no means complete, but only the result of analysing the contributions presented in this volume and the impression gained from the pertinent literature. In the Chapters to follow, these topics are discussed with varying intensity and emphasis depending on the specific focus of the individual contributions.

This introductory chapter aims at providing context and a brief overview. In terms of broad categories of issues discussed these were identified as the concept of sustainable development (SD) itself and its operationalization and specification, the role of evaluation in the political processes involved, the referential frame (time, space and so on) as well as the methodological approaches to be considered.

THE CONCEPT OF SUSTAINABLE DEVELOPMENT AND ITS OPERATIONALIZATION

Sustainable Development as a Frame for Political Action

The Brundtland Report (WCED, 1987), referred to in practically every treatise on sustainable development, provided a commonly accepted idea of

sustainability. This report defined a development 'that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987) as 'sustainable development' (SD) and opened a new public discussion on 'sustainability'. The rather vague outline of this concept contributed without doubt to the widespread approval and popularity the concept has gained thereafter.

Originally an agronomic concept, sustainability involves natural, technical and social science aspects. To some extent, the variety of definitions evolving in the different scientific disciplines is due to the different perspectives and focus implied. In addition, the concept of sustainability in its political intention clearly has normative implications. Thus, definitions of sustainability also reflect social values and political views. This postulate implies a concept that is firmly grounded in social science doctrine (see the contribution by Meyer, Chapter 2).

In spite of this ongoing public discussion, there is up to now no general agreement on what 'sustainable development' really should be and how it can be attained by (global) policy. The scope of this discussion does not permit its reproduction in this contribution (for an overview see for example Pezzey, 1989; Costanza, 1991; Minsch, 1993; Pearce and Atkinson, 1993; Jüdes, 2000). Despite this uncertainty we evolve some dimensions of consideration in the sequel.

As mentioned in the Brundtland definition, sustainability should be the integration of needs between different generations of human beings. This means incorporation on the time dimension, with the demand to include a long-term perspective into current political decisions.

The political decisions involved cannot be assigned to one specific level of political institutions, but require horizontal and vertical linkages of policies (the organizational dimension). Local action for sustainable development has to be framed by national regulations, which themselves have to be harmonized with global agreements. Therefore, new institutions to organize such a comprehensive decision-making process integrating several territorial levels of political action have to be developed within the political system (see Eser, Chapter 4).

Finally, sustainable development needs to be supported by different social groups with diverse interests. Therefore, new forms of governance involving the civil society and NGOs in political decision processes are needed. Moreover, corporate social responsibility for sustainable development has to be developed within each sub-system of society.

Operational Concepts of Sustainable Development (SD)

In an attempt to come to grips with the concept of SD and to provide a more operational basis for the design as well as the evaluation of the relevant PPP, the integration of ecological, economic, and social targets was postulated (for a brief discussion see for example Schubert and Schuh, 2005). This integration can be seen from different perspectives. The most widely applied operational concepts are briefly described in the following section.

The 'three pillars' of sustainability model
The starting point of this approach was the conflictive relation between economy and ecology, implying a trade-off between economic and environmental objectives defining social welfare. The social dimension was added as a third 'pillar' to be considered in long-run sustainability-related development policies, programmes and projects (PPP) (see for example Munasinghe, 1993). The question whether these objectives (pillars) tend to be complementary or substitutive generally is not being dealt with in the desirable detail. The tenor is usually that the positive connections ('win–win–win') are being emphazsised and that SD-related plans and actions should actually identify and implement beneficial alternatives based on multiple 'win' situations. Trade-offs are hence usually not considered, making the concept an exclusively normative one, in which targets need to be explicitly specified. A typical example of this approach is given by Arbter (Chapter 5) by stating that the goal is an 'assessment of the likely economic, social and environmental impacts of policies, plans, programmes and strategic projects'. The main aim is 'to improve the performance of the strategies by enhancing positive effects, mitigating negative ones and avoiding the transfer of negative impacts to future generations' (Arbter, Chapter 5). Bryła (Chapter 19) uses this model as a frame for the criteria to measure the content of Polish rural development programmes with its orientation to SD.

Extended pillars (governance, ethics)
In an extension of the three pillars model, SD is seen as a regulative idea, considering future-oriented social learning, searching and formation processes. This perspective implicitly introduces the concept of 'communicative action' (*kommunikatives Handeln*) following Luhmann (1990), the aim of which is to steer and regulate a system. Eser (Chapter 4), from an institutional point of view, emphasizes the role of 'monitoring and governance' in this context. George (Chapter 6) points out the process character of the SD concept, which must reflect the principles of strategic planning, at least at the national level (which is of prime interest in his contribution). Thierstein and Walser (Chapter 8) view these postulates as

elements of the decision-making process. The answer to the question to what extent the various stakeholders have to be involved in these decision-making processes is considered absolutely essential. This 'stakeholder participation' is deemed to be a central element of an SD concept (see Lettmayer and Kaltenegger, Chapter 14). It is considered to serve as a necessary planning, steering and regulating function, superimposed above the three pillars as a 'value-neutral' element (see Thierstein and Walser, Chapter 8). Values, according to these authors, are constituted by the normative postulate of the pursuit of economic, environmental and social aims, implied by the general ethical principles into which a society is embedded. The observance of these principles defines the political culture of a society as well as the attribution of values to economic, social and environmental variables.

The 'capitals' model

A variant of the 'pillars' concept is the 'capitals' model. The principal idea is that SD is a concept of saving and enhancing the resources a society has at its disposal to produce the goods and services it demands. The Brundtland Report postulate is hence interpreted to imply that all societal actions leading to changes in the stocks defining the resources, need to be planned and implemented in such a way so as not to jeopardize the resource endowment for future generations. The 'pillars' are hence defined as the 'natural, economic, social (political) capital' of a society. More specifically, the separation of the social pillar into 'human capital' (issues dealing with individuals, such as education, health, skills, innovation, entrepreneurship) and 'social capital' (relationships between individuals) is a step towards making the concept operational. In addition some authors add 'political capital' referring to the institutional capacity to make and implement social decisions. The contributions by Medhurst (Chapter 9) and Münster et al. (Chapter 10), as well as Schmid et al. (Chapter 7) make use of the 'four capitals model' briefly sketched above.

The capitals signal the goals which societal actions have to take into account, but also offer a way to measure the changes in the stocks (resources) in principle. Changing the stocks implies a decision (policies, programmes, projects) about the flows that can be controlled by society, for example the rate of exploitation of the natural resources or investment in anthropogenic capital. In principle these decisions determine the quantity of 'investment' as well as the areas into which to invest. An important issue discussed in environmental and ecological economics is the question of trade-offs between the levels of the capital stocks; depending on the possibility of trade-offs between the different stocks, some authors distinguish 'weak and strong sustainability', thus indirectly demanding an a priori societal decision about

which principle to apply (for a discussion see for example Pearce and Warford, 1993; Schubert and Schuh, 2005).

SD as a learning process

In this view SD is a highly complex process which makes it difficult to define specific goals. In this case it is preferable to understand this concept as postulating an evolutionary process, the direction of which is given within an evolutionary corridor, principally open but unknown *ex ante* (Busch-Lüty, 1996). In order to make this approach operational, Thierstein and Walser (Chapter 8) suggest a dual strategy. On one hand SD is seen as a global project, defined in the long run, with a change of values at its core. On the other hand this concept has to be complemented by strategies to overcome short-run deficiencies and problems, with the global goal always in mind. Jahn (1997) even sees an opportunity in this approach to overcome the narrow concentration on problems of environmental pollution and the scarcity of natural resources by opening up new possibilities for social transformation processes. These should promote social learning in the direction of more sustainability stimulated by public policy as well as social self-organization processes (implying both bottom-up as well as top-down initiatives).

Minsch et al. (1998) see four basic strategies for the orientation of such learning processes:

- Reflection and dialogue to promote awareness of ecological, economic and social impacts of any actions.
- Participation of citizens to strengthen the civil society and the readiness to get involved in politics.
- Conflict resolution and compromise to lead the way to more equity in resource endowment and social power.
- Social innovation to create new social, economic and technological potentials facilitating the transition to more sustainable development.

This concept of social learning in the frame of SD is central in the contributions by Thierstein and Walser (Chapter 8), Luhde-Thompson (Chapter 11), Dictus (Chapter 12) and Lettmayer and Kaltenegger (Chapter 14) in this volume. Development planning in this context can be regarded as a concrete result of such learning processes (this view is expounded by George in Chapter 6 and Bauler in Chapter 15 of this volume). Evaluation of the actions taken to promote SD in this concept constitutes an integral part of the social learning process.

EVALUATION OF SUSTAINABLE DEVELOPMENT: POLICIES, PROGRAMMES AND PROJECTS (PPP)

The frequent use of evaluation, measurement and/or estimation methods in policy-oriented studies worldwide has led to a somewhat fuzzy and confusing situation with regard to the very concept of evaluation. In the following section a standard definition is cited, which in principle best reflects the view shared by the authors of this volume.

The OECD (Organization for Economic Cooperation and Development) defines evaluation as:

> the systematic and objective assessment of an on-going or completed project, programme or policy. Its design, implementation and results the aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability. An evaluation has to provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both recipients and donors. Additionally, evaluation refers to the process of determining the worth or significance of an activity, policy or programme. An assessment, as systematic and objective as possible, of a planned, on-going, or completed development intervention constitutes the core of an evaluation.
>
> Evaluation in some instances involves the definition of appropriate standards, the examination of performance against those standards, an assessment of actual and expected results and the identification of relevant lessons. (OECD 2002, p. 21)

There is, however, a very wide variety of definitions for evaluations in a wider sense used in this volume:

- Meyer (Chapter 2) sees the aim of evaluations in, 'helping us to understand the impact of social interventions and to focus on the important influencing factors'.
- Medhurst (Chapter 9) presents approaches in the thematic evaluation of SD which acknowledge the uncertainty and difficulty of measurement and comparison of trade-offs between impacts. The aim is to understand the contribution that the EU Structural Funds make to sustainable development.
- George (Chapter 6) postulates to 'make an important contribution to making sustainable development a practical reality'.
- Thierstein and Walser (Chapter 8) see evaluation as a value-based scientific endeavour to understand how implementation of programmes and policies works and the degree to which PPP actually achieve their declared goals. To this end it is a crucial task to define the appropriate criteria.

- Arbter (Chapter 5) speaks about 'assessment tools' for a 'systematic, decision-aiding procedure for evaluating … effects of options'.
- Dictus (Chapter 12) calls evaluation 'peer reviews', referring to the methodology for performance assessment to measure progress towards SD at the local level.
- Luhde-Thompson (Chapter 11) uses the concept of process evaluation (for self-assessment) as an essential part of the ideal policy system that is governed by reflection about what works and how it works.
- Münster et al. (Chapter 10) see the major task as being to assess the efficiency of the outcome of a project.
- For Hajnal (Chapter 13) evaluating strategies is a step in his research process to test his hypotheses about the underlying assumptions of the analysed projects.
- Lettmayer and Kaltenegger (Chapter 14) speak about self-evaluation as a research process 'in miniature' including participation of the concerned people and a culture of reflection, transparency, feedback and social learning.

The Role of Evaluation in Sustainable Development Policy

In the last years, evaluations have become compulsory in many policy areas on the national, regional and European level. Evaluations are generally placed within the context of the cycle of political decision-making. Thus evaluations are generally regarded as relating to the design of PPP, the ongoing monitoring, the assessment of impacts and efficiency. This very general statement also holds for evaluation studies and actions related to SD. Evaluations have to be an integral part of a 'sustainability management system' on supranational, national, regional, communal and corporate levels, which consists of agreed goals, operationalization of concepts, implementation and feedback.

Evaluation of SD is thus not an isolated task to measure the effectiveness and impact of individual actions, but an organized feedback process for decision-makers in politics, business and society.

The idea behind this is for centralized policy levels to focus on overall goals and rough guidelines and leave it to decentralized agents to decide how to attain them, as they usually have the best technical information and know-how. For this reason the guidelines have to be created with the participation and advice of stakeholders. By setting macro goals, a referential policy framework is created, allowing for closer monitoring of decentralized activities (target-based decentralized planning, see the discussion of the right level of policy implementation and evaluation, Eser, Chapter 4 and

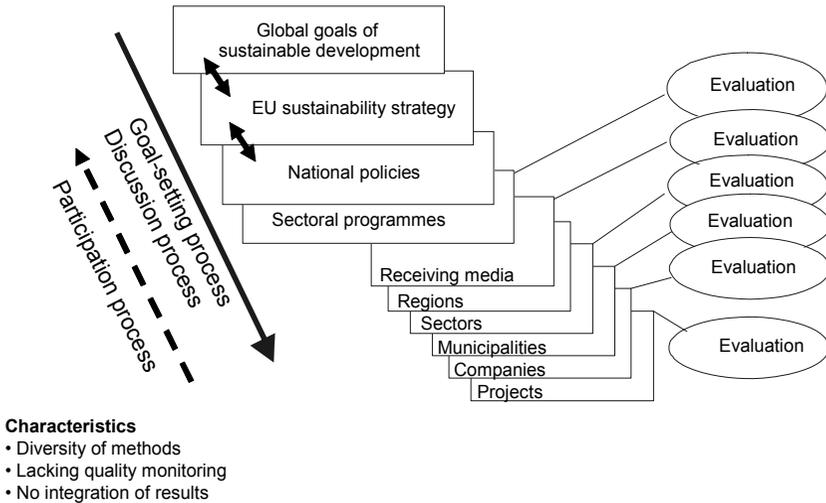Thierstein, Chapter 8). Figure 1.1 sketches the role and level of evaluation in the policy making-process.

Figure 1.1   Present evaluation practice as case-by-case legitimization

Source: Schubert (2002), adapted.

The Subject of Evaluation

The immediate subject of evaluation is the achievement of PPP with respect to SD goals. Evaluation of SD is, however, 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. This should lead to a more effective, efficient and transparent integrated environmental, economic and social policy and to more accountability, transparency and democracy in general.

The example of the sustainability strategy which the European Union (EU) is currently developing reflects some of the ideas in the discussion of what needs to be evaluated. The process of the strategy is top-down, designed to integrate sustainability concerns in all policy areas, particularly requiring a feedback process, which:

- secures learning effects and enables the transfer of experience within and between different tiers of administration;
- guarantees decentralization and subsidiarity, and therefore efficient decision-making structures;

- ensures the attainment of the goals following the hierarchy of tiers;
- provides a reference frame for the evaluation of smaller units.

In the context of SD, 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 implementation activities (see Martinuzzi, 2004, p. 436). An example of such interlocking levels of the hierarchical 'sustainability management system' is provided by European Commission (2004, p. 94) in the context of development aid for hill farming families (Figure 1.2).

Policy (of the National Agricultural Research Council)	Programme (of the Research Stations)	Project (of the Research Team)
Overal Objective: To contribute to the improved livelihood of hill framing families		
Purpose: Increased agricultural prduction, productivity and incomes among hill faming households	***Overal Objective***: to contribute to increasing agricultural production, productivity and incomes among hill farming households	
Results: The use of improved agricultural technologies increased among targeted farmers	***Purpose***: Increased use of improved agricultural technologies by hill farmers (e.g. rice)	***Overal Objective***: to contribute to increased use of recommended improved technologies
	Results: Recommendations for targeted farmers provided/disseminated	***Purpose***: Recommendations provided for improved technologies suitable for targeted farmers
		Results (e.g.): 1. Technologies identified based on farmer priorities 2. Technologies generated and adapted 3. Technologies verified in farmers fields

Figure 1.2   Interlocking levels of PPP

Source: European Commission (2004, p. 94).

A hierarchical 'sustainability management system' implies the following three levels of analysis for evaluation of SD.

Evaluation of policies (frameworks)

In policies' statements the system of objectives for development has to be spelled out, thus determining the areas of concern and responsibility. SD is hence usually defined in operational terms, which is adequate for the concerns and goals identified and on which there exists a basic consensus in society. The (sometimes implicit) decisions behind the objectives laid down provide a clue to the priorities implied, thus indicating how seriously the concept of SD is taken. The integration between various policy areas postulated constitutes a serious obstacle to classical sectoral approaches and procedures in the public sector. The extent to which innovative ideas of cooperation is implemented is an important indicator of progress towards SD requirements.

Eser (Chapter 4) emphasizes this point of integration between various policy fields (horizontal integration), but adds that such integration is also warranted in a vertical dimension. George (Chapter 6) discusses the evaluation of national strategic policies with the aim to 'harmonize the various sectoral, economic, social and environmental policies and plans that are in operation in the country'. The aim of the evaluation is to provide a common framework by which countries can report progress in developing strategies for SD.

The LASALA project (Luhde-Thompson, Chapter 11) revolves around two themes – eco-efficient urban management and new models of urban governance. The focus is therefore to look at processes which seek to change or adapt to the emerging priority of integrating economic, social and environmental issues with urban governance.

Also, the peer reviews for cities project (PRESUD, see Dictus, Chapter 12) focus mainly on governance and integration of the three SD policy areas.

In the country reports (see Part III in this volume) the understanding of SD operationalization is an institutionalized process in public authorities. For example, Bauler (Chapter 15) presents the Belgian institution of the 'Interdepartmental Commission' for SD, which tries to coordinate the individual policies of the federal SD plans.

Evaluation of programmes (strategies)

Strategies and programmes operationalize policies, usually with the intention to promote specific projects. Programme evaluation thus aims at the segment between policy and projects. The task is to check the compatibility of the objectives stated in the policy and in the programmes on the one hand, and the programmes and the projects on the other. The way the programme

functions as well as its outputs, outcomes and impacts are the essential issues under scrutiny in such evaluations.

Schmid et al. (Chapter 7) present the evaluation of a national agro-environmental programme which depends on the European Common Agricultural Policy. This programme meets simultaneously society's need for an improved state of the environment, taxpayers' request for more balanced commodity markets, and farmers' economic interests. The authors promote an approach of stakeholder participation that makes possible a broadly based political acceptance of the evaluations approach and its results.

Medhurst (Chapter 9) shows the approaches taken in the thematic evaluation of the contribution of the European programme of Structural Funds to sustainable development. The results of this approach provide a basis for changes in the design and delivery of Structural Funds programmes in the future.

In the 'report on evaluation in Italy' (Bonifazi et al., Chapter 16) an ongoing transition from a normative approach to a programme-based perspective is identified.

Arbter (Chapter 5) discusses strategic environmental assessment and sustainability impact assessment as participatory tools for plans and programmes. But, given the tight link between the planning process for the programmes and the policies, these tools are also usable for evaluation of policies and even legislation.

Evaluation of projects (action)
Projects represent the concrete action taken in accordance with policies and programmes leading to the implementation of the aims stated.

In the view of Meyer (see Chapter 2), 'projects are organizational means to influence surrounding social systems. Project inputs, organizational capacities of implementing agencies and several determining factors forming the social environment represent the independent variables and general contextual conditions for the achieved project results, both intended and unintended.' Thierstein and Walser (Chapter 8) present a reference frame for projects which actors can approach autonomously and on a cooperative basis.

Münster et al. (Chapter 10) develop a 'straightforward, applied and user-friendly tool for local communities'. This tool should enable them to demonstrate the usefulness of their local SD projects.

For teamwork projects, Lettmayer and Kaltenegger (Chapter 14) show the way to use self-assessment as a tool which can contribute to continuity and improvement of development processes by systemic learning and to new 'governance' structures within the team. Hajnal (Chapter 13) presents the results of technical assistance projects, which are part of international development aid programmes for the CEE (Central and Eastern Europe).

In this way of thinking every action, guided by the targets of SD needs to identify the level of influence it is aimed at.

George (Chapter 6) shows how to use the SD policies discussed in Rio and by the OECD (international development targets) to build up national SD strategies. They are based on existing (strategic) planning processes in the country.

Even a bottom-up process like the Local Agenda 21 has to be placed within the existing political hierarchy. Luhde-Thompson (Chapter 11) shows the relevance of political commitment for these processes. This means they have to be integrated into the political target system of the municipality.

Meyer (Chapter 2) shows, from a more actor-oriented approach, the embeddedness of projects in the implementing agency. Its goals produce common points of reference for the projects which it implements.

All the European programmes and projects, like Structural Funds, discussed by Medhurst (Chapter 9) or the Common Agricultural Policy, discussed by Schmid et al. (Chapter 7), depend on the identification of these tiers of hierarchy: the EU, together with the member states, develops the policy and funding programmes. These are the basis of action programmes and projects on the regional level.

Operational views of methods and tools – especially the contributions in this volume on programmes – show this interlocking and nesting of objectives, purposes and results on the different levels of PPP. The sustainability assessment matrix developed by Medhurst (Chapter 9) is a method to examine the contribution of programmes to particular objectives or criteria that are taken to represent SD on the spatial level, at which the policy intervention is being managed. The criteria measured in other tools, like the evaluation checklist in Thierstein and Walser (Chapter 8), and the WinWin22 cost–benefit matrix in Münster et al. (Chapter 10), can be defined as results of the project, which are themselves results of programmes or policies on higher levels.

Summarizing, two quite distinct subject areas of evaluation of SD can be identified:

- Formulation and implementation of PPP, dominated by the requirement to establish objectives, set up an appropriate institution and organization, and ensure guidance of the relevant system and power for implementation (see George, Chapter 6 and Dictus, Chapter 12)
- Effects and impacts of PPP (the emphasis usually being on the project level; see Münster et al., Chapter 10). The analysis of these must include the non-intended effects, as well as pay attention to structural and social values change. These various effects can either be assessed

in an additive fashion (see for example Arbter, Chapter 5, making use of the 'pillars' concept), or their dynamics and the processes behind them can be investigated (see Medhurst, Chapter 9; Münster et al., Chapter 10).

The Administrative (Spatial) Level of Evaluation

The question of the 'best' level at which evaluations of SD-related PPP should be tackled is discussed widely in the literature (see Eser, Chapter 4, and Thierstein and Walser, Chapter 8, in this volume). The general argument is that the level of evaluation should follow the level of design and implementation of the PPP. Two queries arise in this context, that is the 'optimal' level of policy-making and the problem of how to deal with the widely observed split of the whole sequence of tasks involved in the design and implementation of SD-related governmental action.

Eser (Chapter 4) addresses the issue of the 'proper' level of policy making (which is particularly important in federally organized countries). 'Government' is the main institution charged with the achievement of sustainable development. Government, however, is not only one singular institution on the top level of a hierarchy. The task is, hence, to identify the best-suited tier of government to formulate and implement SD-related PPP (in accordance with the subsidiarity principle). In practice, many decision-making, administrative and financial functions are subdivided between governmental levels. Interactions between the regional authorities on different levels allow co-decision-making or joint decision-making and frame-setting. There is no 'invisible hand', which guides all public institutions to follow a sustainable path. For this the question has to be answered, as to which are the appropriate monitoring processes and thus also evaluations of the desired SD and on which level they should be carried out.

Thierstein and Walser (Chapter 8) also discuss the right level for implementing sustainable development as a global concept, thus dealing with a closed system. 'Acting locally (regionally)' implies that the property of closure no longer holds and single-region analyses can thus have serious flaws (for example shifting social costs to other regions tends not to be considered). On the other hand, the authors claim, the region is an area for inhabitants to identify with easily; additionally, actor interaction and the region's administration is manageable. (The region is better than the local level to bring together fragmented regional interests and avoid a strict limitation to local interests, the authors maintain.) It follows, therefore, that the region is also the right level for evaluation and the starting point for developing an assessment tool. The tool should be based on the requirement

of participation of stakeholders, and use a discursive and nonetheless systematic method, which is aimed at collective learning.

A distinction has to be made, however, as to the level of the design of PPP, monitoring and the level of implementation. Table 1.1 presents an overview of the contributions in this volume where this distinction plays an important role.

Table 1.1   Spatial-level matrix of contributions

		Level of PPP's framework				
		international	national	regional	local	others (e.g. companies)
operational level	international					
	national	Bryla, ch. 19, Schmid et al., ch. 7	George, ch. 6, Bauler, ch. 15, Simon, ch. 17			
	regional	Medhurst, ch. 9, Bonifazi et al., ch. 16, Bauler, ch. 15, Arbter, ch. 5		Thierstein and Walser, ch. 8		
	local	Luhde-Thompson, ch. 11 Dictus, ch. 12	Bonifazi et al., ch. 16, Simon, ch. 17		Münster et al., ch. 10 Langer and Predota, ch. 3	
	others (e.g. companies)	Hajnal, ch. 13, Meyer, ch. 2				Lettmayer and Kaltenegger, ch. 14

As all the approaches at the end of the day are based on the global concept of SD, all the contributions listed in the matrix in Table 1.1 would have to enter the element of an 'international' level. The intention here is, however, to show only the operational level. Another important consideration is the fact that international directives are usually translated into the national system of regulations on which the PPP are based, thus making a very clear-cut distinction rather difficult.

For a short description of the central concern of the contributions in the matrix, the reader is referred to the final section of this introduction.

Evaluation and the Phases of the Policy Process

The cycle of policy decision to implementation moves from *ex ante* evaluation that documents starting needs and the feasibility of planned programmes through to ongoing or mid-term evaluation that documents progress and implementation and potentially points out deficits. The cycle finishes by *ex post* evaluation that focuses on results. However, *ex ante* evaluations should feed into programme design and policy formulation. Mid-term evaluations should help shape programme implementation and provide information for similar programmes. At the end of the evaluation

cycle, *ex post* evaluations should contribute to policy reviews and help in the design of new policies (Figure 1.3).
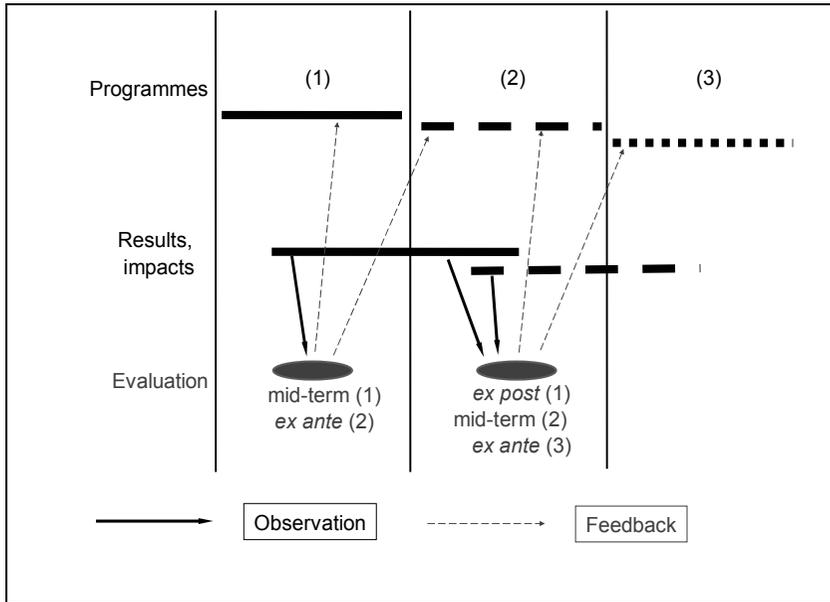

Figure 1.3   Articulation of evaluation programming cycles

Source: Tavistock et al. (2003, p. ii).

Ex ante evaluation

Ex ante evaluation analyses the strengths, weaknesses and potential of the state, region or sector concerned. It provides the relevant authorities with a prior judgement on the concept of the intervention (PPP): for example, have the development issues been diagnosed correctly, are the strategy and objectives proposed relevant, is there incoherence in relation to policies and guidelines, are the expected impacts realistic. This analysis provides the required foundations for monitoring and for future evaluations: explicit objectives. Selection criteria for the selection of projects can be specified with respect to policy priorities. Decisions are made more transparent by allowing for a clear explanation of choices made and their expected effects.

   Ex ante evaluations are performed at the time when public authorities are involved in discussions and negotiations on the future programme. They often based on a vague formalization of the proposed programme (Tavistock et al., 2003, annex A, p. i).

Thierstein and Walser (Chapter 8) argue that projects should be evaluated prior to being implemented. At this stage, the relevant stakeholders who are involved in or concerned with a specific project should meet. The central question is: Do the objectives of the project in question have a positive or negative impact, or is the impact neutral in the three fields of 'targets', 'processes' and 'ethics'?

Bauler (Chapter 15) states that especially in Belgium *ex ante* evaluations are not part of the federal policy tradition, thus warranting a learning process. Bonifazi et al. (Chapter 16) point out the different policy traditions between the central government and the regions of the country. These tend to differ among each other as well, all these facts indicating the likelihood of a development of different evaluation practices by the same token.

The evaluation tools presented by Medhurst (Chapter 9) are also *ex ante* tools. Their aim is to influence the project pipeline in such a way as to make funds flow to the better-performing projects.

Mid-term evaluation

Mid-term evaluation is performed during the implementation of the interventions. The conclusions of mid-term evaluation can lead to adjustments made during the PPP cycle. This evaluation critically analyses the first outputs and results of interventions: have the original intentions been carried out? By comparison with the initial situation, the evaluation highlights changes in the general economic and social context and judges whether the objectives remain relevant (Tavistock et al., 2003, annex A, p. i).

Since the role of intermediate evaluation is to check whether the objectives are still relevant and in the process of being achieved, it will be necessary to refer primarily to the monitoring system data but also:

- to the *ex ante* evaluation and particularly to the diagnosis made in relation to the prevailing socio-economic context before the start of the programme, and which needs to be updated;
- To the *ex post* evaluation of the preceding programme, of which the conclusions concerning the same areas of intervention could serve as references.

George (Chapter 6) shows a tool to evaluate the national strategies to help countries identify and address shortcomings in the processes of achieving their objectives for SD. Schmid et al. (Chapter 7) show an instrument which is used to assess the effects of a running programme to have decisive information for its further development (this method making use of a scenario technique can also be applied in *ex ante* studies). The Local Authorities' Self-Assessment of Local Agenda 21 (Luhde-Thompson,

Chapter 11) allows regular assessment of the situation and the ongoing processes by the local governments themselves. Such endeavours should also help to ensure progress towards SD. In PRESUD (Dictus, Chapter 12) a mid-term evaluation of municipalities' governance structures and politics is presented in a closely related field. An assessment of already existing governance structures and ongoing programmes is at the core of the analysis discussed.

Ex post evaluation

Ex post evaluation recapitulates and judges the entire programme, particularly its impacts. The effectiveness and efficiency of interventions are analyzed comparing with expected effects from the beginning of the intervention. The sustainability of results and impacts are the focal criteria. It tries to draw conclusions that should be available when the next programme is planned.

However, the impacts are often produced with a time delay after the intervention. 'Impact analysis is always a large-scale exercise if performed systematically. *Ex post* evaluations therefore tend to involve surveys in the field and to take place over long periods lasting from twelve to eighteen months' (Tavistock et al., 2003, annex A, p. ii).

Ex post evaluation is based on management and monitoring data and on surveys in the field which will help to observe and analyse the actual and sustainable impacts of the interventions. It refers to *ex ante* evaluation insofar as it has to report on the attainment of objectives. It refers to intermediate evaluation, particularly to identify the successes or failures which were identified at that stage.

To the extent that evaluation must draw conclusions from preceding experience to improve future programmes, an interesting solution is to establish a pluri-annual evaluation plan. The idea is to identify the different possible evaluations and to establish their date and content in relation to the political schedules and deadlines for decision-making of the evaluation 'customers' at various levels.

Meyer (Chapter 2) presents a concept for *ex post* evaluations of projects. It is focused on assessing the long-term outcomes and impacts, which last longer than the duration of the project. Hajnal (Chapter 13) applies this framework for his evaluation of educational projects for civil servants in CEE.

The WinWin22 tool (Münster et al., Chapter 10) is an enhanced cost–benefit analysis of local projects. As evaluation tool it is a concept for *ex post* or mid-term assessments with the aim to compare the intended and achieved costs and benefits in the 'sustainability prism'.

Why? Aim of Evaluation

As already apparent in the section on evaluation and its role in the decision-making process, various aims have a bearing on the decision to carry out evaluation studies. Several reasons are usually quoted in the literature; the most widely discussed are the claims that evaluation supports rational decision-making, constitutes an essential element in social learning processes and provides a vehicle for decision-makers to legitimize their actions.

Evaluation as decision support

Depending on the stage of the decision-making process and the openness of the decision-makers to alternatives there is the question whether to base the choice of the best alternative on an analysis of the available options before the actual decision. The alternative is to assess the intended or unintended effects of a programme or project in a later phase of the policy cycle (see section 'The Subject of Evaluation' in this chapter).

Practical experience shows that such analyses are often carried out without explicit and formal evaluation tools. In an assessment of the benefits of PPP, informal or not, the only alternative considered is the 'business as usual' variant, thus limiting significantly the scope of possible action (see Schmid et al., Chapter 7 and Medhurst, Chapter 9). In many cases the alternatives considered are only various instruments to achieve the objectives laid down in a predetermined policy intervention, which itself was not subject of an open (transparent) evaluation.

SEA (strategic environmental assessment) and SIA (sustainability impact assessment), for example, are decision aid instruments used in order to optimize a considered solution interactively during its preparation (Arbter, Chapter 5).

Thierstein and Walser (Chapter 8) present an *ex ante* evaluation tool to provide an answer to the central evaluation question: Do the objectives of the project have a positive, negative or neutral impact in the three elementary categories of targets, processes and ethics? In this concept the tool is aimed at collective learning about the possible output, the outcome and the impact of a project according to its specific design. Improvements to avoid negative effects or to strengthen positive effects can be made before a project starts, or at least in an early stage.

A further step in the decision-making process is the possibility to compare different approaches in problem-solving. This mid-term or *ex post* evaluation (see above) is a kind of benchmarking study to learn from better-performing PPP. Dictus (Chapter 12) in his presentation of PRESUD introduces an assessment of municipalities' policies and programmes by peers in equal positions in other cities. They make their own experience available for the

assessment and simultaneously learn from the actions and experiences in the city assessed. Hajnal (Chapter 13) compares several training concepts with an *ex post* view.

Evaluation as a vehicle of social learning

The principal idea behind this approach is that evaluation helps to improve social action by pinpointing weaknesses (as well as strengths) of PPP (see Meyer in this volume, Chapter 2 and above). The self-assessment module of LASALA (Luhde-Thompson, Chapter 11) looks at processes which seek to change or adapt to the emerging priority of integrating economic, social and environmental issues within urban governance. PRESUD (Dictus, Chapter 12) is a tool to measure ongoing PPP and encourage the further implementation of SD in Europe's cities. The self-evaluation methodology for research projects and teams (Lettmayer and Kaltenegger, Chapter 14) tries to set up a culture of reflecting, transparency, feedback and learning about strategies and values of action. The evaluation of national strategies for sustainable development (George, Chapter 6) has beside the legitimization aim the objective to help countries to identify and address shortcomings in their processes, in order to learn how to improve the strategy.

Evaluations to promote social learning thus serve the purpose of fostering continuous improvements. The screening of the strengths and weaknesses of an ongoing process from an *ex post* perspective, and opportunities and threats from an *ex ante* viewpoint, is essential (typically the task of current or mid-term evaluations).

Evaluation for legitimization

The 'classic' aim of evaluation is to check the results of mostly publicly financed programmes or projects assess their efficiency and applaud or criticize the institution responsible for initiating the PPP. These 'value for money' studies serve to legitimize the investment in these endeavours from an *ex post* perspective.

More specifically, one aim of the evaluation of national sustainable development strategies (George, Chapter 6) is to report the progress of reaching SD goals. The evaluation of Schmid et al. (Chapter 7) is used to legitimize the spending of the money allocated to the programme by finding win–win–win situations to meet simultaneously society's need for an improved state of the environment, taxpayers' request for more balanced commodity markets, and farmers' economic interests. Meyer (Chapter 2) sees the success of a project characterized by long-run effects, which outlast the end of the project, as the proper legitimisation. Hajnal (Chapter 13), in addition to conceptual aspects, considers the direct efficiency of the analysed technical assistance projects (TAP) as one proper legitimization criterion.

Efficiency is measured by the training cost per trainee, per training day (as one out of several variables to judge how TAP management works). Münster et al. (Chapter 10) measure the costs and benefits of a project, a typical tool of *ex post* monitoring, which they suggest can also be used for more general project management and analysis. Taking this function on board, this approach also serves the goal of social learning.

APPROACHES AND METHODS

In this section some basic approaches and methods and their application in the contributions in this volume will be briefly introduced. The most basic classification usually encountered in the literature is the distinction between qualitative and quantitative approaches.

More sophisticated quantitative approaches for evaluations are frequently based on some variant of an econometric model, to which an environmental and social sector have been added (for example the 'Cambridge Econometric Model' referred to in Medhurst, Chapter 9) or large input–output type models with an integrated environmental sector. Future development is simulated on the basis of planned (alternative) interventions (PPP). In this volume Schmid et al. (Chapter 7) present a 'holistic' model to simulate developments in a rural pilot project area. As mentioned above in the study by Medhurst (Chapter 9) an econometric model was tested. Medhurst states: 'The attempt to characterize all the main trends using available data is extremely time-consuming, and not especially revealing, confirming understanding rather than illuminating important new issues.' Additionally the lack of appropriate data in the relevant topic and geographical area is often identified as a limiting factor for these methods.

Even if appropriate data are available, the question of defining exact criteria needs to be solved. Schmid et al. (Chapter 7) state: 'Apart from … analytical problems, programme objectives are often formulated vaguely and do not allow any kind of normative programme evaluation a priori.' For this reason Schmid et al. advocate stakeholder participation as a qualitative approach to define environmental and economic indicators that are both accepted by groups with diverging interests, and are measurable by economists and natural scientists. Even Medhurst (Chapter 9) focuses on indicators: 'A better approach is to synthesize the key regional development issues … In light of this a small number of key criteria can be selected … measured by more than one indicator.'

In this way of thinking many contributors present their concept of indicators or criteria, specifying what to measure. This approach, however, raises a more important question than just the method of how to measure.

Münster et al. (Chapter 10) derive their indicators in principle from the four capitals model, specifying 19 components of these capitals in operational terms. They measure the costs and benefits of the components, but without monetarizing every impact. Thierstein and Walser (Chapter 8) take the expanded pillars concept as the base for their list of criteria covering the fields defined by the pillars. These criteria are assembled in matrices, and the criteria are weighted equally, the authors being well aware of the problem of trade-offs between different pillars. In the SEA and SIA methods (Arbter, Chapter 5; Bauler, Chapter 15; Bonifazi et al., Chapter 16) these approaches are used as well.

Another approach is less focused on the outputs of interventions, but more on the processes and the progress of the interventions. George (Chapter 6) defines principles for effective national strategies for SD which are based on principles of SD and strategic planning. These are operationalized in the form of a list of criteria. In LASALA – Local Authorities' Self-Assessment of Local Agenda 21 (Luhde-Thompson, Chapter 11) – ten criteria are developed, based on European Common Indicators, the 'Public Administration Excellence Model' (EFQM Excellence Model) and the 'Aalborg Charta of European Cities and Towns Towards Sustainability' (Aalborg Charta, 1994), to explore the aspects of a local process for SD. Peer Review for European Sustainable Urban Development, or PRESUD (Dictus, Chapter 12), is based on performance assessment themes – three governance, four integration and six environmental themes. A set of 'leading questions' is introduced to assess the processes of PPP's formulation and implementation.

The methods presented here are in very general terms necessary to set up a matrix of themes, indicators and questions. The answers to each question are found in qualitative or quantitative ways. The aggregation of the answers still faces the difficulty of identifying the trade-offs between different targets.

The next methodological step is to decide who the people could be to answer the questions concerning future development. Alternatives are 'experts', or 'stakeholders' making use of a participative way of dealing with the future. Schmid et al. (Chapter 7) argue in favour of both approaches simultaneously. Using a very sophisticated, expert-based method of mathematical modelling, they show the need to integrate stakeholders in the process of setting up the frame for the model and to guarantee the transparency of the process. Arbter (Chapter 5) discusses the need for a proactive participation of interest groups during the SEA and SIA process. Thierstein and Walser (Chapter 8) also argue in favour of an assembly of the relevant stakeholders, who are involved in or concerned with a specific project. Both expert knowledge and the experience of laypersons jointly developed and shared was used for the assessment of the project. In LASALA (Luhde-Thompson, Chapter 11) a dual strategy is proposed with an

internal self-assessment of local authorities and a reflection of this view in a stakeholder workshop or joint statement.

A more expert-based approach is suggested in PRESUD (Dictus, Chapter 12) in which peers (persons of equal standing) make the internal assessment for European municipalities. Medhurst (Chapter 9) and George (Chapter 6) use a team of experts (evaluation practitioners) for their evaluations mainly. Münster et al. (Chapter 10) do not explicitly speak about stakeholder involvement. But they present a tool for project managers, who can choose whom to integrate in the decision-making process.

Summarizing, it can be claimed that, given the uncertainties of developments in the future, there is definitely a need for the integration of stakeholders and laypersons in the assessment process.

PRACTICAL QUESTIONS FOR THE EVALUATOR

In the preceding paragraphs various aspects of evaluation of SD were touched upon. From this discussion it became obvious that an evaluator has to make numerous decisions as to how to organize his or her study. Figure 1.4 provides an example of such a sequence of decisions as it emerged from the contributions in this volume. This description is by no means complete and should not be considered as a handy tool for planning an evaluation study. The hope is that it will stimulate thinking about all the possible decision nodes in a plan and thus make the results potentially more transparent.

The results of the theoretical discussion of the topics of evaluation of SD in the previous sections are used here as a framework for the process of conceptualization.

The evaluation can be confronted with two basic situations:

1. The concept of SD and the evaluation approach is (almost) completely given by the contractor.
2. Part of the evaluator is to design a suitable concept for the evaluation.
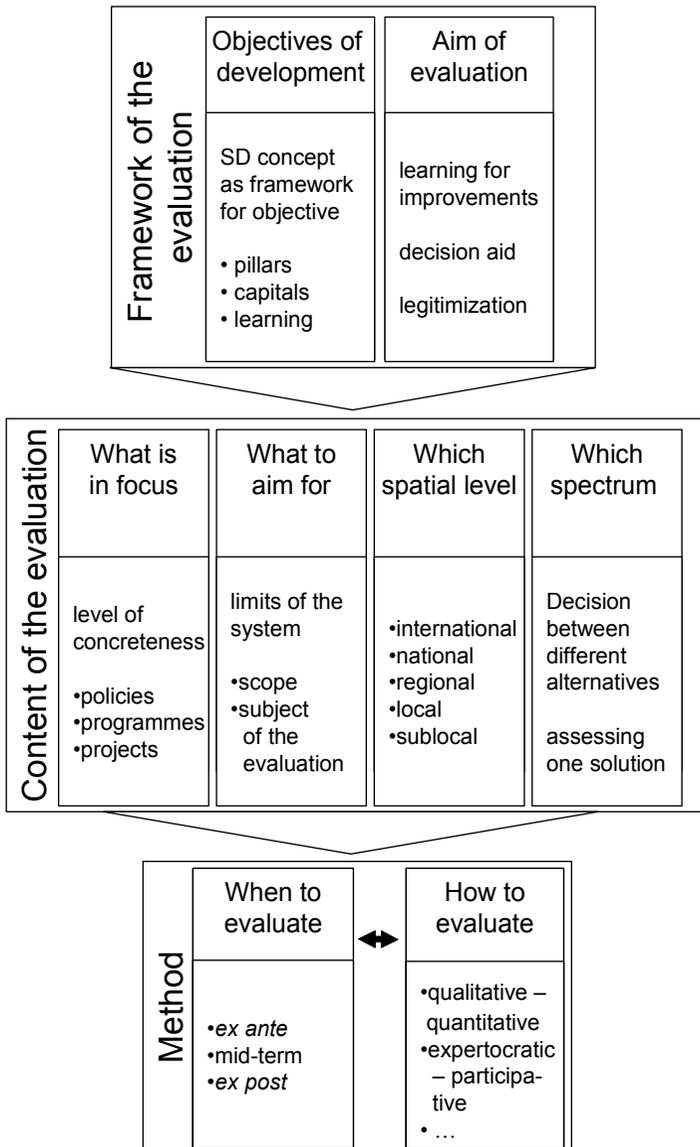
Framework of the evaluation

Objectives of development	Aim of evaluation
SD concept as framework for objective

• pillars
• capitals
• learning | learning for improvements

decision aid

legitimization |

Content of the evaluation

What is in focus	What to aim for	Which spatial level	Which spectrum
level of concreteness

•policies
•programmes
•projects | limits of the system

•scope
•subject of the evaluation | •international
•national
•regional
•local
•sublocal | Decision between different alternatives

assessing one solution |

Method

When to evaluate		How to evaluate
•*ex ante*
•mid-term
•*ex post*	◄►	•qualitative – quantitative
•expertocratic – participative
• …

Figure 1.4   Conceptualization of SD evaluations

In the first case the contractor has to think about the 'why, what, where and when' of the study; in the second case this is the evaluator's job.

What kind of understanding of sustainable development is the basis for the evaluation? The answer to this question yields the targets for the envisaged development path. Moreover an indication is given as to the proper sectors to include in the study as far as the impacts of the interventions are concerned, as well as which measurement methods are available. In the 'pillars' approach, for example only the effects on the target variables defining the pillars are assessed, while in the 'capitals' model the trade-offs between the flows ('investments' in the capitals) have to be made explicit.

The aim of the evaluation has to be clarified. Even without explicit statement some elements practically always need to be considered, such as the efficiency of the money spent (legitimization). This implies an assessment of the attainment of the targets set and the efficacy of the PPP, including an analysis of the options that were (*ex post*) or are (*ex ante* decision-aid) available. The management of the PPP is another important issue, in all phases thereof. It tends to be of particular significance in the intermediate (ongoing) stage of the PPP. In practice, however, the desirable clarity of the goals of an intervention cannot always be achieved. Multiple goals, which are not easy to integrate into the SD concept, sometimes make life tough for the evaluator. Examples are, for example, provided by some EU programmes which need to promote all goals of the Union, of which SD is only one.

The aim of the evaluation has an important bearing on the design and consideration of the alternatives considered for the intervention (decision-aid). In the intermediate stage the emphasis is on various options available to carry out the chosen alternative. *Ex post* evaluations have only the chosen and implemented version to consider.

The aim of the evaluation also helps to determine the right points in time to place the study. If an *ex ante* decision-aid assessment of an intervention is planned, the question arises as to which stage of planning it should be used in.

The *ex ante* decision-aid is most useful. Mid-term studies are the best time for 'learning' on programme and project management; while in *ex post* evaluations the right time to measure the effects and impacts needs to be found (short- and medium-run effects can still be measured and the long-run effects are already discernible):

1. The choice of the level (spatial, administrative) on which the evaluation should be located, includes two dimensions. On the one hand the question is, typically to be considered in a 'decision-aid' situation, on which level the intervention should be effective. On the

other, the evaluator has to decide which level is best for the analysis of effects and impacts to be measured. Moreover the choice of the 'right' level indicates which degree of concreteness is to be expected (see, for example Figure 1.2).

2. The decision on where to place the limits of the system is directly linked to the definition of SD. These limits need to be set with respect to several dimensions of the system studied, for example the spatial limits, the economic and administrative sectors involved, and so on, thus determining the reach of the interventions hypothesized.

STRUCTURE OF THIS VOLUME

The contributions in this volume can be looked at from two different perspectives. One option is to read them as chapters in their own right, expressing the views on conceptual and practical matters, as well as reporting the experiences of the authors. The alternative for the reader is to pick out specific topics, discussed in this introduction, with references to the individual chapters, thus offering the possibility to compare the views and to go into greater depth.

The chapters were arranged so as to deal with three main topic areas relevant for evaluators, that is concepts, evaluation methods and applications.

In the following section a very brief summary of the contributions is presented following the sequence of the chapters.

In Part I Meyer presents a concept for the evaluation of SD related projects (which in principle also holds for policies and programmes) based on social science doctrine (Chapter 2). An essential element of the concept is the claimed existence of a lifecycle of PPP (from planning all the way to the post-intervention phase). The way different elements of a social environment affect the performances of one social actor and, vice versa, how the behaviour of a single actor contributes to social change on the macro level of society, are the leading questions of the impact model, which is added to the life-course model. An essential criterion to be considered is the potential of spreading social innovations by the intervention as such, and the evaluations.

Langer and Predota (Chapter 3) see the key element of evaluations in the assessment of progress towards a set of objectives or criteria. Thus, as a prerequisite, evaluation requires a system of reference, with regard to which the subject of the evaluation will be assessed. This referential framework of SD, like a map that depicts possible theoretical and practical approaches, is a necessary means for the definition of scope and subject of evaluation of programmes and projects for sustainable development.

Eser (Chapter 4) offers a framework for the evaluation of the appropriate governmental level for SD in a multi-level government and its institutional settings. The consideration of these levels is relevant for an optimal implementation of PPP.

Part II of the book shows a variety of methods and tools which are used for carrying out SD evaluations. Within this part there are three sections based on the spatial level of application of these methods.

The methods offered by the impact assessment tools SEA and SIA, which are presented by Arbter (Chapter 5), can be used in multi-regional settings. These instruments are explained and compared. An overview of the development of these tools in Austria and around the world is presented. The main threat of trading-off environmental aspects versus socio-economic impacts within SIA is discussed, and ideas for further development and application of SIA are shown.

George (Chapter 6) discusses an instrument of evaluation of national SD strategies. The focus is not on assessment of impacts but on planning and political strategy development processes. Schmid et al. (Chapter 7) present a method based on a mathematical simulation model of development in rural areas. An important part of this chapter is the plea to include the stakeholders in the evaluation process to reach acceptance of possibly common goals among members of interest groups with often diverging interests.

Thierstein and Walser (Chapter 8) expand the 'pillars' concept of SD by adding politics and decision-making processes and social value systems (ethics). They put these aspects into a reference frame for projects, which enables actors mainly on the regional level to carry out a self-evaluation autonomously and on a co-operative basis.

Medhurst (Chapter 9) shows methods for the thematic evaluation of Structural Funds projects on the regional level. Based on the four capitals approach, he explains the regional development paths and sustainability assessment matrix.

Münster et al. (Chapter 10) show, on the same conceptual basis, the usefulness of the tool of cost–benefit analysis for projects on the local level. This tool is expanded to also be applicable for sustainable project management and analysis, supported by a database, WinWin22.

For local authorities Luhde-Thompson (Chapter 11) presents the self-assessment tool LASALA, which is used by the authorities with support of the relevant stakeholders. LASALA can also be used for benchmarking between different communities.

A different approach is presented by Dictus (Chapter 12), called PRESUD. The assessment is carried out by peers, who examine the PPP in reciprocal visits of review teams in a consortium of European municipalities.

The third section concentrates on individual institutions. Hajnal (Chapter 13) shows the approach of an evaluation research study on a foreign aid programme on training courses for civil servants in CEE. The main theme is the question of project sustainability.

Lettmayer and Kaltenegger (Chapter 14) offer a method of self-evaluation for research project teams. It is supposed to assist the evaluators in developing their internal strategy development and reflecting on their own research work.

In Part III of this volume some snapshots on the praxis of SD evaluation in Europe and the US are presented. Bauler (Chapter 15) offers an overview of the state of the art of evaluation of SD in Belgium, understood as institutionalized processes in public authorities. His cases are evaluation efforts, which are part of institutionalized SD policy and planning cycles. Additionally he analyses the sustainability impact assessment prepared for Belgium.

Bonifazi et al. (Chapter 16) present the situation in Italy, including the most important activities in evaluation, such as the institutionalization of environmental assessments (EIA and SEA), the evaluation of socio-economic development as well as the planning system, and the evaluation of Local Agenda 21 actions.

Simon (Chapter 17) reports the situation in France. His main points are the institutional context and the provision of evaluation procedures in SD programmes. The experience gained, as well as methodologies and indicators used, are reviewed. Furthermore Simon discusses whether and how SD policies are evaluated (who is doing what, in which context, using which tools) and identifies whether and how evaluation of sustainability is integrated in other than explicit SD policies.

Aizsalnieks (Chapter 18) carries out a meta-evaluation of evaluation reports from Finland.

Bryła (Chapter 19) relates the situation of evaluation in Poland, a transforming and new EU member country. The author studies rural development programmes – the EU funding programme SAPARD and elements of the National Development Plan – and evaluates their contributions to SD.

Last but not least Struhkamp (Chapter 20) reports the situation in a non-European highly industrialized country, the US. The state of the art of evaluation of SD is analysed and a meta-evaluation of 30 SD reports is presented. One of the central results is that SD is in principle accepted as a political concept, but, in contrast to Europe, evaluation of SD is practically not regulated and no efforts toward standardization seem to be under way.

For some countries where such explicit reports are not reproduced in this volume, references and some remarks can be found in some of the chapters.

The countries on which such information is provided are: Germany (Eser, Chapter 4; Langer and Predota, Chapter 3; Thierstein and Walser, Chapter 8), Austria (Eser, Chapter 4; Langer and Predota, Chapter 3; Arbter, Chapter 5; Schmid et al., Chapter 7; Thierstein and Walser, Chapter 8; Dictus, Chapter 12; Lettmayer and Kaltenegger, Chapter 14), Switzerland (Eser, Chapter 4; Thierstein and Walser, Chapter 8; Münster et al., Chapter 10), CEE (Hajnal, Chapter 13).

In addition, country reports of Spain (Izquierdo and Cattaneo, 2003), Hungary (Zseni, 2003), UK (Grace and Mararike, 2003), Germany (Gessner, 2003) and Russia (Arzhenovskiy, 2003) can be found in the conference proceedings of the EASY-ECO 2 conference (Kopp et al., 2003). A summarizing article on the results of the country report offers Martinuzzi (2004).

A short outlook on remaining research questions and policy issues by Martinuzzi et al. (Chapter 21) closes this volume.

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