

Progress towards Sustainable Regional Development: Results from the EU Research Programme on Human Dimensions of Environmental Change

Ruggero Schleicher-Tappeser, EURES Institute for Regional Studies in Europe, Freiburg i.Br.
Filippo Strati, SRS Studio Ricerche Sociali, Firenze

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1 The Background

The political framework

In a recent years the concept of Sustainable Development has rapidly diffused throughout the legislation of the European Union and has meanwhile been formally established as a basic component in all Community policies. In the Treaty of Rome, the founding document of the European Economic Community (1957), the goals of development were defined mainly in economic terms. In the Single European Act of 1986, the aim of environmental protection was introduced (article 130r). Five years later, the Maastricht Treaty (1991), in defining the objectives of the European Union (article B), called for promoting "economic and social progress which is balanced and sustainable". The Treaty of Amsterdam (1997) required not only the promotion of a high level of protection but also improvements in the quality of the environment (Article 2). It requests that "Environmental protection requirements must be integrated into the definition and implementation of the community policies and activities ... in particular with a view to promoting sustainable development" (Article 6). After many years of different and often isolated efforts in direction of a stronger respect for the environment in community policies, this general requirement constitutes an important step. On this basis further progress has been made. In 1998 the Commission presented a Communication to the European Council in Cardiff on "Partnership for integration – A strategy for integrating environment into EU policies". Finally the reform of the European funds presently discussed under the label "Agenda 2000" will no doubt draw concrete consequences on a number of points.

This evolution reflects the public and political debate in Europe and at the global level. Within the Commission there have always been different forces and endeavours. The requirement to integrate environmental issues into other community policies is a major achievement of the Environmental policy. Since 1994 in each Directorate General there are officers specifically appointed to address environmental issues. The structural funds were considered to be of special interest in this context. In DG XI (Environment, Nuclear Safety and Civil Protection) a specific sub-unit has been created to examine environmental aspects of all structural fund programmes. Discussions raised by these new requirements and structures have led to changed perceptions and actions by the Commission. Clear evidence is seen in DGXVI pilot project initiatives to promote sustainable regional development¹.

¹ Two examples: 1) A network of 12 objective 2 regions for the promotion of sustainable development under Community structural funds programmes; 2) Integrating environmental sustainability into new Structural Fund Programmes: Guidance for those compiling new Regional Development Programmes (based on the experience from 16 regions). To be published in 1999.

The concept of Sustainability emerges as a new quality in this debate. Many still feel uncomfortable with this new term however because it raises a series of new questions. It was the UN Commission on "Environment and Development" under the presidency of Gro Harlem Brundtland (1987) successfully introduced this concept into the international debate in its attempt to reconcile environmental concerns and development endeavours. Since then much progress has been made towards a more precise understanding of this integrative concept, especially after the Rio Summit in 1992. Much remains to be done to fully understand the implications of this approach in all policy fields. And obviously, there are strong interests linked to this debate. Many are still using the term "Sustainable Development" as a synonym for environmentally acceptable development, others fear that it has the function to subordinate environmental concerns to economic growth. But the public debate, policy documents and research results of recent years show that interpretations are converging.

European Policy Documents as the AGENDA 2000 which insist on the necessity of sustainable development still leave a large room for interpretation for this term. However, they do require environmental evaluation, integration of different policies, partnership, participation and subsidiarity mechanisms. The immediate challenge is that of forging a more coherent approach on the basis of these elements.

A widespread sense of profound societal transformation is already apparent. Politically, the concept of sustainability stands for an emerging concept of development that still needs to be better formulated, and its implications need to be understood, interpreted and operationalised for specific situations. In this phase research can be very helpful in clarifying concepts and ideas and in providing useful tools. However, the idea of sustainable development also requires judgements and choices, and in this context, research can help to figure out the alternatives at stake. Research should not, however, try or be urged to do the job of political decision-makers. The main thrust of the new EU RTD programme is to support the implementation of EU policies. In this context, especially concerning structural policies, two directions of research are of key importance:

- to contribute to a better common understanding of the meaning of sustainable development, especially of what might be called Sustainable Regional Development
- to develop practical tools for putting into operation effective European policies in this direction

The research programme and the approach of the review

Within the research area "Human dimensions of environmental change" of the EU research programme ENVIRONMENT and CLIMATE, a series of projects, initiated in 1992, have dealt with these issues. The selection mechanisms of this programme have allowed for a variety of projects to approach these questions from different vantage points. There was no specific attempt to frame and steer the research in this area. However a number of research topics of direct relevance to Sustainable Regional Development were included in previous programmes. Indeed, among the more than 150 projects funded within the framework of the Human Dimensions programme, about 22 can be considered to be of relevance concerning Sustainable Regional Development. Out of these, a dozen of most pertinent projects have been selected by the reviewer together with the scientific officers of the programme for a more in-depth analysis.

The major interesting consequence of this review is, that there seems to be a considerable convergence in views, an emergence of shared perspectives which would have been much more controversial at the beginning of this research period. Inevitably, the choice of pertinent projects and their interpretation have been influenced by the personal experience of the reviewer who has also been co-ordinator of the INSURED project ("Instruments for Sustainable Regional Development") within this framework. However, the conclusions of this review do not

only represent a personal view: Representatives of nine reviewed projects met to discuss preliminary results of a comparison in a two days workshop and their converging views have been considered in this overall interpretation².

2 Overview

The nine projects reviewed in more detail here, varied considerably in their subjects and approaches. Two main groups of projects can be distinguished:

- those which put the emphasis on a better understanding of development processes, on the interaction of different dimensions of sustainability and on the preconditions for sustainable development at local and regional levels
- those which developed and experimented with procedures and tools for promoting sustainable regional development.

In this sense we find answers to both requests from the side of policy-makers identified above.

Table 1: reviewed projects

Acronym	Co-ordinator	Title		duration
CT96-0193	Marc Mormont	Consensus Building for Sustainability in the Wider Countryside	BE, UK, FR	5/96 – 4/99
LLASS CT92-0138	Anne Buttimer	Landscape and Life: Appropriate Scales for Sustainable Development	IRL, DE, SE, NL	1/93 – 12/94
CT92-0150	Gastone Ave	The Cultural and Economic Conditions of Decision-making for the Sustainable City	IT, UK	11/92 – 7/94
CT96-0238	Corinne Larrue	Environmental protection, subsidiarity principle and spatial related policies	FR, CH, SP, IT	6/96 – 5/98
INSURED CT96-0211	Ruggero Schleicher-Tappeser	Instruments for Sustainable Regional Development	DE, IT, IRL, AT, CH	4/96 – 6/98
SUDECIR CT96-0271	Gerrit Vonkemann	Sustainable Development of European Cities and Regions	BE, AT, DE, GR	5/96 – 5/98
STENUM-1 CT96-0272	Hans Schnitzer	Development of Societal Mechanisms and Management for the Establishment, Implementation and Maintenance of Sustainable Production Programmes at the local level	AT, IT, NL, IRL, PT	5/96 – 4/98
DTCS CT96-0199	Euro Beinat	Spatial Decision Support for negotiation an conflict resolution on environmental and economic effects of transport policies	NL, UK, IT, PT	4/96 – 3/98
SPARTACUS CT96-0201	Kari Lautso	System for Planning and Research in Towns and Cities for Urban Sustainability	FI, IT, SP, UK, D	4/96 – 7/98

² Participants of the workshop were: Euro Beinat (DTCS), Anne Buttimer (LLASS), Peter Knoepfel (Larrue Project), Kari Lautso (SPARTACUS), David Ludlow, Luigi Mazza (Ave project), Marc Mormont, Martin Nussbaumer (STENUM), Filippo Strati (INSURED) and Gerrit Vonkeman (SUDECIR) from the project side, as well as a number of representatives from the Commission. We want to thank these colleagues for their intensive, challenging and constructive collaboration. A special thank goes to Michel Cornaert from the Human Dimensions programme who has initiated and continuously supported this review. For details see References and Appendix.

Figure 1: Geographic location of the case studies in the projects analysed



- ▲ SPARTACUS
- STENUM-1
- INSURED
- ★ DTCS
- ◆ LLASS
- ▲ SUDECIR
- ◻ Environmental Protection, Subsidiarity Principle and Spatial Related Policies
- ◉ Consensus Building for Sustainability in the Wider Countryside
- The Cultural and Economic Conditions of Decision-making for the Sustainable City

The starting points and the methodological backgrounds of these projects show a wide spectrum, which – although not comprehensive – reflects a number of key issues of Sustainable Regional Development (SRD):

In the first group all projects were based on historical analyses of case studies in several European regions. Most consequently rooted in what one could call a cautious constructivist perspective, is a project co-ordinated by Marc Mormont which analyses complex local development processes including nature protection issues in the “wider countryside” in Belgium, the UK and France. Using an action network approach as developed in the analysis of technology policy, it shows how the issues at stake are being continuously reformulated and redefined by the interaction of different kinds of actors whose composition and interaction patterns are themselves strongly influenced by the evolving issues. Using a similar approach another project (LLASS, co-ordination Anne Buttimer) looks at the change of scales of perception and of functional interrelationships over the period 1950-1990 in four distinct regions of Germany, Ireland, Netherlands and Sweden. Whereas these projects were focused on understanding processes and historical transformations, a project investigating systematically the role of different political levels in successful nature protection cases (co-ordination Corinne Larrue) has also given practical recommendations for policy makers and local actors. In a similar spirit, an Italian-British project (co-ordination Gastone Ave) looked at the way in which environmental concerns had been integrated in local decision-making processes in urban development policies. Particular emphasis was put on the difficulty of comparing experiences in different contexts and on the question how European cities could learn from each other. Finally, a project which somehow forms a bridge between the two groups, developed an integrated approach to Sustainable Development leading to a broad framework for describing and comparing Sustainable Regional Development approaches in Europe, it analysed the interrelationships between policies and innovative actions in different regions and finally developed a general framework for the practical quality management of SRD (INSURED, co-ordination Ruggero Schleicher-Tappeser).

The other end of the spectrum of approaches (see table 1) is represented by a project that focused much more on functional than on social and political interrelationships. It developed a computer model for exploring the impact of hypothetical policy packages on urban development using a series of quantitative sustainability indicators (SPARTACUS, coordination Kari Lautso) and tested this model in different European agglomerations. A more dialogue-oriented approach was used in the DTCS project (coordination Euro Beinat) which developed a framework for conflict resolution in transport issues including a software tool for combining a factual analysis of expected policy impacts with the formulation of interests and preferences by territorial communities. The tool was also tested in case studies. Whereas these two projects started from the assumption of identifiable relationships and rational decision-making (and limited the scope of their research), other projects – also aimed at the development of tools – tried to cope with the complexity of social interactions by emphasising visions, objectives and targets. Focusing on the issue of industrial clean production the STENUM project (co-ordination Hans Schnitzer) analysed social interaction patterns in the concerned communities and tested varieties of local political strategies in different European cities. The SUDECIR project (coordination Gerrit Vonkeman) which took a much broader approach, starting from a general consideration of present environmental problems, it drew conclusions for necessary action at the regional level, and on this basis developed a methodology for a participatory elaboration of regional sustainability plans. Different approaches were tested in different European regions.

Table 2 gives an overview on the adopted methodologies and the research outputs.

Table 2: methodological approaches

Project	research method -----							research output	
	historical analysis	interregional comparative analysis	case-studies	experimental pilot projects	models & scenarios	vision or development concept	conceptual framework	indicator system	management framework
Mormont	XX	XX	XX				XX		
LLASS / Buttmer	XX	XX	XX		X	X	XX		
Larrue	XX	XX	XX				XX		
Ave	XX	XX	XX				X		
INSURED / Schleicher	XX	X	XX				XX		XX
SUDECIR / Vonkeman			X	XX		XX	XX	X	X
STENUM-1 / Schnitzer	X	X	X	XX		X	X		X
DTCS / Beinat	X		X	XX	X		XX		XX
SPARTACUS / Lautso		X	X		XX		X	X	X

By nature, all these projects have a European perspective. This is an important difference to most projects on the same subject carried out in national contexts. All projects considered have worked with case studies in different European regions. Interestingly, the workshop discussions revealed that this diversity in situations and approaches has in a number of cases been an important cause leading to a modification of original assumptions.

Table 3 categorises the subjects and perspectives, and reflects a quite homogenous picture: Corresponding to the focus of the research programme, all projects put a strong emphasis on the social and political interrelationships. Environmental and to a smaller extent also economic interrelationships were investigated less intensively. Most projects looked at both vertical (between different scales or hierarchy levels) and horizontal (between local actors, institutions, development dimensions) interrelationships, however with different emphasis. Concerning the time horizons it is interesting that long-term interrelationships which extend over more than one generation were only investigated in very few cases.

Table 3: Investigated Interrelationships

	investigated interrelationships						
	social	economic	environ-mental	horizontal	vertical	short- & medium-term	long-term
Mormont	XX	X	X	XX	XX	X	
LLASS / Buttmer	XX	X	X	X	XX		X
Larrue	XX		X	X	XX	X	
Ave	XX	X	X	XX	X	X	
INSURED / Schleicher	XX	X	X	XX	XX	X	X
SUDECIR / Vonkeman	X	X	X	XX	X	X	X
STENUM-1 / Schnitzer	XX	X	X	X	XX	X	
DTCS / Beinat	X	X	X	XX	XX	X	
SPARTACUS / Lautso	X	X	X	X		X	

3 The main issues

From the above analyses five main issues emerge which may be used to present the results of the projects in relation to their potential interest to the implementation of sustainable development in the framework of regional policy:

- definitions of sustainability / conceptual frameworks / role of indicators
- horizontal interrelations
- vertical interrelations – subsidiarity
- management tools for sustainable regional development
- coping with diversity and change – mutual learning

3.1 Definitions of Sustainability / frameworks / indicators

Sustainable development is increasingly understood as a process which goes beyond environmental issues and in which economic viability and social interrelations play a most important role. The initial understanding of the meaning of sustainability differed among the various projects. However, a considerable convergence could be observed – at least between the project leaders. It seems that in several projects a wider range of views persisted between the single case study teams. This confrontation with many different contexts throughout Europe has shown that sustainability cannot be understood as a well-defined state that can be described by generally valid indicators. It has become evident that the implementation of sustainability objectives in the regions of Europe requires both general frameworks and sets of indicators and criteria corresponding to specific regional contexts.

An interesting example is the SUDECIR project: Starting from the two components of the Brundtland Report “environment” and “development”, SUDECIR extensively discussed present environmental problems and aspects of development and then drew normative conclusions for the regional level which was considered as most important. Confronted with the strongly differing conditions in different European regions, the original idea of defining a series of standard sustainability indicators has been abandoned in favour of a more flexible approach in which local actors are given an important role in defining local development objectives and strategies. They are offered a common procedure of work, guidelines and access to proven methodologies. The procedure includes the identification of key sectors for sustainable development policies in the specific region, the setting of detailed goals and the selection of appropriate indicators.

The project co-ordinated by Mormont indicates how to deal with such differences: it emphasises that the concept of sustainability is constituted through a process. The understanding and formulation of the concept, the perception of problems and the concrete dealing with them are considered not to be separable. We find ourselves in a European wide process where an increasingly common perception is growing.

The role of indicators within the concepts of sustainable development represents an issue, which is debated by many scientists and policy makers. Among the projects reviewed only SPARTACUS has developed a detailed system of quantitative sustainability indicators in the environmental, the economic and the social dimension. They were used for testing of different policy options with the help of an equilibrium model. Provision was made to apply different value functions in different cities. One difficulty was, that the approach was based on clearly separated subsystems for which specific, clearly separate indicators were difficult to find. In the review workshop indicators for sustainability were considered to be essential for guiding the actual implementation of policies. But it was emphasised that they should always be understood

as provisional and as context-related. A general consensus emerged, that specific indicators and criteria only make sense in relation to development objectives. Such development objectives have to be set by political decision-makers at different levels and – as will be discussed below – need to be differentiated over space and time. Therefore, a discussion of the development objectives would have to precede the choice of specific indicators and criteria (as effectively was the case for some of the SPARTACUS indicators).

Another problem highlighted by SPARTACUS is linked to this issue and seems to be of basic importance: In a conventional logic of top-down planning many policymakers and administrators are asking for more reliable forecasts concerning the interaction between nature and society as well as the long-term impact of policies. But whereas in natural sciences a series of causal relationships could be well established, concerning social and economic issues often no generally accepted theories are available that allow to construct quantitative models based on causal relationships. SPARTACUS has adopted a more complex approach using models which calculate equilibria between supply and demand in an iterative process. But also here, assumptions concerning behaviour are difficult to make. It seems that there is no escape from this difficulty: Changing perceptions and values of the people involved are themselves changing existing relationships.

This feedback is at the same time ground for hope that problems may be resolved by responsible behaviour of informed citizens, and the reason for the difficulty to understand and predict these changes. This is the “self-reflexivity” that Giddens has pointed out. It seems that in the present transformation process these difficulties are increasing and that the reach of forecasting and modelling is becoming shorter. The consequence is, that models as the one proposed by SPARTACUS are themselves to be considered only as one element in a complex real feedback process. SPARTACUS has shown that the use of models in decision-making processes can make important contributions to a wider public dialogue – provided they are actively used for opening up wider possibilities for public debate and dialogue among diverse actors on the ground – regarding the possible consequences of policy and behaviour changes in the spirit of a flexible management approach, and not pretending to provide reliable long-term forecasts for rigid top-down planning.

In order to provide guidance for consistent approaches in the integration of sustainability in policy making and implementation, while acknowledging the variations in perceptions and issues over time and between regions and cultures, the INSURED project has developed a broad framework of ten components of sustainability. It incorporates different approaches which have been identified in a review of the history of the discussions and ideas leading to the concept of sustainable development. It is based on the idea that sustainability should be considered as something like a “regulative idea” (in the sense of Kant), such as health, beauty or freedom, which needs concrete interpretation in specific contexts. In the INSURED case studies and in a number of subsequent projects, this framework has proved to provide a useful common language for European wide discussions concerning sustainable development.

Despite all convergence, some differences in emphasis remain: There is a fruitful spectrum of approaches between the impatient normative impetus of the SUDECIR project trying to establish new norms and values, on one side, and the cautious sensibility for shifts in perceptions and interactions of the Mormont and Buttmer projects.

Comparing the interpretations of sustainability in these projects with the way of dealing with this new concept in many administrations, a statement should be made that for many may seem almost trivial: There is a general agreement among the projects considered, that the active integration of different dimensions of development – social, economic and ecological – and not simply a defensive fulfilment of single conditions is the essential challenge of sustainability. In practice, sustainability has often simply been formulated as the need for integrating

environmental concerns into other policies, but the challenge is more fundamental: Sustainability should not be considered as the specific concern of an environmental lobby. Adding minimum requirements concerning economic and social development does not suffice for a real integration of different development dimensions. What is needed now is a constructive approach which tries to find innovative integrated win-win-solutions that contribute simultaneously to the fulfilment of objectives in several dimensions.

3.2 Horizontal Interrelations

Many of the projects reviewed deal with the problem of how this integration of different dimensions can be achieved practically: different specialised institutions, actors, interest groups would need to co-operate and to develop common approaches. Mormont describes the emergence of new practices of co-operation and new alliances which continuously lead to a reframing of issues at stake and the territories concerned. Sustainable development thus becomes a dynamic learning process in which co-operation and the search for alliances are central elements. Ave describes the difficulties and achievements of practical coordination and cooperation in urban policies. All projects agree that functional specialisation and a compartmentation of responsibilities have led to perceptions as well as institutional and behaviour patterns that make integrated approaches very difficult. However, the degree to which such a compartmentation has become rigid and the way in which new initiatives try to overcome these difficulties, vary considerably between different cultures. Many of the projects argue that a regional level or scale (with ideas varying from regions such as formally established in France or Italy down to aggregations of local communities) could play a prominent role in integrating different dimensions of development. This reduces complexity by focusing to a limited space where actors are more easily identified and issues more concretely perceived. However it is important to be aware of the limits of this approach.

This problem diagnosis is not new, but has been enriched and detailed by interesting contributions in this program (e.g. LLASS). Moreover the reviewed projects seem to have made remarkable progress in proposing specific approaches, methods and tools for meeting this challenge of the concept of sustainability: SUDECIR has developed systematic approaches for elaborating integrated regional development plans. STENUM-1 has proposed approaches for starting and developing cooperation networks concerning clean production. DTCS has developed a tool for identifying and structuring conflicts in order to facilitate co-operative negotiations on transport issues.

Another aspect of horizontal interrelationships concerns relations and equity between regions. Here again, the DTCS tool can support negotiations (see point 3.4).

3.3 Vertical Interrelations – Subsidiarity

Since the seventies regionalist thinking has advocated that taking care of the environment (today we would say 'environmentally sustainable development') is much more easy to achieve by consequent regionalisation than by trying to solve problems at national or international levels (cf. "small is beautiful"). In the eighties and nineties one could observe an accelerated trend towards a Europeanisation and globalisation of political and economic decision-making. At the same time this was combined with remarkable trends towards a regionalisation of administrative and political structures, of economic development policies and of cultural identities in many European countries. In this context, the concept of subsidiarity, i.e. the question about the appropriate level for decision-making has been much debated. This issue is of great relevance to Sustainable Regional Development. Most projects thus have somehow dealt with the question of vertical interrelationships between different levels of governance and between different scales, and have helped clarifying the issue.

Especially the projects co-ordinated by Anne Buttimer (LLASS) and Corinne Larrue have dealt with this issue. Set out “to determine in what conditions the decentralisation of the decision-making allows a better consideration of environmental concerns” {Knoepfel & Larrue 1998 ID: 12701} the Larrue project has investigated a carefully selected set of successful reactive and proactive nature protection cases in different countries. In no case was local/ regional action found to be sufficient alone: In all cases – whether of bottom-up or top-down origin – cooperation between different tiers of government and administration from the local to the European level was essential for success. The results of the INSURED case studies would fully corroborate this conclusion: the ability of local actors to establish links to different levels and the existence of supportive policies are key success factors for innovative actions. Equally, a series of other projects (e.g. Ave, Schnitzer) has shown how important it is to be able to act simultaneously on different levels. Also the SUDECIR project, which originally set out to solve global environmental problems by a regionalist approach (“isles of sustainability”), later has shifted towards a more flexible view which acknowledges that interrelations between local/regional and larger scales must be taken into account. The LLASS project finally has analysed the changing scales of “discretionary reach” between 1950 and 1990 in four different European regions with respect to economic growth, social vitality and environmental integrity. Special concern was raised regarding the vastly expanded scales of sectorally specialised enterprise on the one hand, the consistently local scales of social affinity on the other. Attention was also drawn to the tensions between spatially circumscribed domains of political and administrative reach and the nodally organised “footloose” scales of functional reach. LLASS argued that environmental policies should be formulated at rather low levels but that an intensive cooperation between different tiers and a matching with economic/ functional systems is important. Arguing on a similar line, the INSURED project proposes to use the concept of subsidiarity in a broader sense: subsidiarity can not only be applied to politics and administration but also to economic structures, social solidarity, material flows or technical systems.

From all these experiences emerges a new way of looking at vertical interrelationships, at subsidiarity, at the role of regions. While all projects conclude that local and regional competencies are important in the strive of sustainability, the discussion at the review workshop showed that it is indispensable to address several levels and their interrelationships at once. The term “regionalisation” does not cover all necessary aspects in this context. The sometimes fiercely debated question whether to shift competencies from the national to the European or the regional level, loses importance when the issue is reframed by asking how each level could contribute best in the sense of shared responsibilities. What matters in a world where political, social and economic actors have to negotiate in complex networks is the quality of the relationships between levels of competencies. In fact, after forty years of building a European Community the political practice is much more advanced in this sense than the simple models that dominate the public political debate. Terms like “multi-level governance”, “shared responsibility”, “co-decision” or “multi-level negotiation system” indicate how the concept of subsidiarity should be interpreted today. In this view “scale” or “reach” may often be more appropriate terms than “level”.

The project “Sustainability, Locality and Democracy: Community Identity in the Sustainability transition” co-ordinated by Timothy O’Riordan supported the above view.

Throughout the case studies in the various projects, direct links between the European and the local and regional levels have proved to be very helpful in promoting innovative approaches. A kind of competition between different supporting policies has proved to challenge creativity. By pursuing this approach, the EU can contribute effectively to the necessary empowerment of actors at the local and regional levels. Case studies all over Europe have shown that this empowerment is essential for Sustainable Regional Development and is already taking place.

The idea that subsidiarity goes beyond the mere distribution of competencies to include relationships between authorities at different level is actually underlying an increasing number of Community policies, as exemplified by the EU Demonstration Programme for Integrated Coastal Zones Management (European Commission 1997). New tendencies to re-establish conventional hierarchies by preventing the Commission from strengthening links with the regions or by preventing national and regional governments from extending own development schemes outside the areas defined by Structural fund regulations can be considered as a step backwards.

3.4 Managing the reorientation process

As Sustainable Development has become a policy objective, policy-makers and administrators at all levels request tools for evaluating and possibly reorienting policies in this direction and to implement them. Many administrators would like to get simple checklists that would ensure "sustainable development" without the need of questioning established procedures and existing structures. However, as the concept of sustainability implies a shift in perceptions and requires new approaches that would also imply changes in the way of policymaking, answers cannot be just so simple. Therefore, in proposing practical tools for promoting sustainable development a balance has to be maintained: On one hand new procedures and tools have to be easy to handle and to understand within existing structures in order to be accepted, on the other hand they should help to change perceptions, encourage to raise questions and not pretend to "guarantee sustainability". The projects analysed here have developed a series of tools and methods that seem to constitute a considerable progress in this sense:

- A guide for developing regional sustainable development plans has been developed in the SUDECIR project. The standard course of action which has to be adapted to specific regions includes a regional analysis, the development of a vision and of an implementation programme, the follow-up with a regional management system. The development of a common vision, participation of a variety of actors and locally interpreted sets of indicators play an important role in this framework.
- A framework for the co-operative management of conflicts is being proposed by the DTCS project. Originally developed for transport issues, this approach could be useful also to SRD in general given the potential for conflicts arising from the number of vertical and horizontal relationships. It can be used for discussing conflicting interests between territorial units of the same or of different levels. A difficulty that emerged in its practical implementation was the astonishingly limited experience and capability of actors at various levels to clearly formulate their interests. Helping them to learn this, and to become good negotiators can be an extremely valuable contribution to a more sustainable way of policy making. Inevitably this will need time.
- A quantitative model for forecasting the impact of policy measures on different dimensions of sustainability in urban agglomerations has been developed by the SPARTACUS project.. With all their present limitations, the results of such simulations can be very helpful for showing multidimensional consequences of single policies and as input for a qualified public debate.
- The STENUM-1 project has developed a 'self help guide' towards installation of Sustainable Production Programmes on local level. Main steps towards these SPP are the definition of the status quo, the identification and involvement of appropriate local actors as well as the selection of suitable tools. One of the most important aspects in this approach is the consideration of local pre-conditions in the selection of tools (overview is given in guide) and the selection of actors.

- A differentiated framework for the quality management of sustainable regional development has been developed by the INSURED project. It includes parts for the analysis of ORIENTATION, POTENTIAL and DYNAMICS, as well as standard tasks that occur in the management of programmes. The framework puts a strong emphasis on describing the regional context in order to be able to transfer experiences from one context to another. A further development is envisaged: the development of a computer based interactive management tool for use in the practical management of programs at different levels and for the structured exchange of experiences.

In developing, choosing and using these tools and methods we should keep in mind that we are still at the beginning of a practical and theoretical process of understanding what sustainable development means. Learning how to do better therefore should be one of their most important purposes.

3.5 Coping with Diversity and Change – Mutual Learning

The attempt to develop general approaches for Sustainable Development in Europe has to deal with two kinds of variations or uncertainties concerning the societal aspects of development: with the differences between European cultures and regions (over space) and with changes over time. To acknowledge these uncertainties, differences and changes means that the possibility to generalise specific findings and approaches is principally limited and is not only a question of insufficient knowledge. In order to cope with diversity and change European policy-making needs flexible management approaches. Additionally, new ways for mutual learning are needed in order to make better use of the rich variety of experiences and approaches for creative innovations towards a more sustainable development.

The diversity of contexts and cultures across Europe was an important issue in all projects, and often a source of underestimated difficulties. All projects carried out case studies in different countries. Many of the researchers had multicultural experiences before, but it is interesting to observe that difficulties to cope with diversity between European regions seem to have been the most frequent reason for modifying initial approaches during the course of the projects.

Many projects experienced these difficulties within their own teams: a considerable share of time has been necessary in order to develop a common language and a common understanding. Often, a common language was available on an abstract level. But in comparing concrete regional experiences within a multicultural team, many difficulties arose in being confronted with the need to make explicit and to explain cultural attitudes or simply administrative traditions that within a country had always been taken for granted. As experienced project co-ordinators of European projects know, projects with multi-cultural teams concerning these culturally related issues require a different project management than mono-cultural teams or projects in natural sciences. Amazingly little systematic reflection concerning these issues seems to have taken place in the framework of European research programmes. Most research concerning Sustainable Regional Development is being carried out in the framework of national programmes. In this sense the Human Dimensions programme constitutes a rare opportunity to directly address the issue of European Diversity.

Mutual learning requires a common language for describing experiences in different contexts. Many of the projects reviewed have tried to develop some elements of such a common language. The project co-ordinated by Ave and the SPARTACUS have shown the difficulties of transferring experiences between cities, but have provided some tools for analysing and describing a context. LLASS deployed some classical themes such as landscape transformations, lifeways and “reach” to reveal important cultural differences in perceptions of past and future. The DTCS project has provided a procedural methodology for confronting and comparing different viewpoints. Most explicitly the INSURED project addressed this issue and

has tried to develop a broad framework that allows to describe and to compare specific contexts as well as experiences with their underlying approaches and strategies. A set of key regional factors focuses on the social interaction patterns which are considered to be most essential elements of the specific context.

Policies for Sustainable Regional Development should actively make use of the richness of European cultural diversity and encourage such learning. Subsidiarity can be seen as an essential approach for coping with this diversity. Continuous efforts are needed to find the appropriate balance between integration and autonomy. The projects in this programme have somehow shown the challenge of finding more systematic ways to bring together the richness of different European experiences. Much remains to be done to pave ways in this direction. European programmes could offer very efficient support: Enhancing the exchange of experiences between regions may often be more effective than funding existing structures. In many regions the most important contribution of the European Community to local development was to open minds and to release creativity by bypassing conventional power structures and offering new opportunities for mutual learning.

4 Analytical presentation of the projects based on the INSURED framework

In the preceding chapter a rough analysis of the projects has been carried out with five broad categories. Among the project leaders there was general agreement that they were useful and adequate for such a cross-cutting analysis. An interesting opportunity for a more systematic and detailed analysis is given by the framework developed in the INSURED project. Although at the present stage of the discussion a general agreement on such a detailed framework would be premature, it shall be presented here as an example of how such a more detailed analysis can be carried out.

4.1 The INSURED framework

This “framework for the quality management of sustainable regional development” has been designed to be useful for various kinds of evaluations and for strategy development. It has been explicitly constructed in such a way as to provide a common “language” for discussing different approaches. Developed in the INSURED project, in a series of practical applications it has already proven to be useful in this sense.

The framework is composed by three major parts:

- The 10 components of sustainability which give the ORIENTATION towards Sustainable Development
- The 16 key regional factors which describe the social POTENTIAL of a region to develop itself,
- The 6 transformation levers which can be used for describing the Transformation DYNAMICS or the basic strategies used in a development process.

Orientation towards Sustainable Development: 10 components of sustainability

Looking at all kinds of approaches to sustainable development, it emerges that all of them try to answer one or more of three basic questions. For each of these questions a small number of basic components of sustainability can be identified:

- The question “What? what shall be sustained?” leads to the development dimensions:
 - environment
 - economy

- socio-culture
- The question “Why? which conflicts of interest are the motives?” leads to the equity dimensions:
 - Social and gender equity (inter-personal)
 - Equity between regions (spatial)
 - Equity between generations (temporal)
- The question “How? Which basic approaches can help us?” leads to the Systemic Principles:
 - Diversity
 - Subsidiarity
 - Networking / Partnership
 - Participation

All these components have a descriptive and a normative side. Much more than being sharp criteria for sustainability, these components should be considered as headlines to be discussed and further investigated in each case.

The Systemic components relate to the vertical and horizontal interrelations discussed above (see figure), but allow for much more differentiation. They should not only be interpreted in terms of social relationships but can be equally applied to the economic or the environmental dimension.

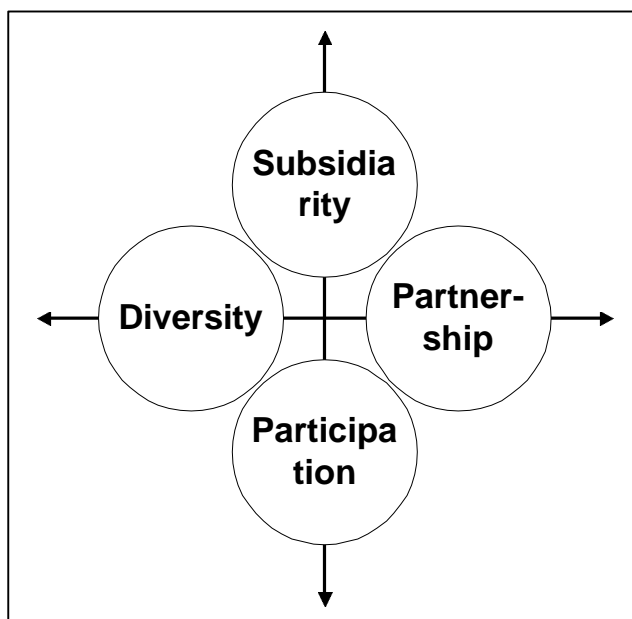


Figure 2: The Systemic Components

Describing the Social Potential: 16

Regional Key Factors

The capability of territories and regions to develop themselves strongly depends on the interaction patterns of their inhabitants among each other and with the outside world. Much more than by physical constraints, the development potential of a region seems to be conditioned by the Social Potential. Based on the analysis of a series of case studies the INSURED project has developed a set of 16 key factors which are simultaneously *common* (because they are relevant in each local context), *diverse* (because they are not substitutable and act in different ways depending on the specific context) and *original* (because their specific combination represents the unique innovative potential of a region).

Describing the Transformation Dynamics: 6 Transformation Levers

The transformation levers on the other side constitute a set of basic strategies for Sustainable Regional Development. Each proposed or actual strategy can be described in these terms:

- Enhancing problem understanding
- Open collective learning
- Negotiation and co-decision
- Creation of a shared vision
- Service orientation
- Self-governance

This framework can be used for different kinds of assessment, evaluation, or strategy building, (e.g. in the framework of the management of structural funds). In every kind of evaluation these headings gain a slightly different meaning.

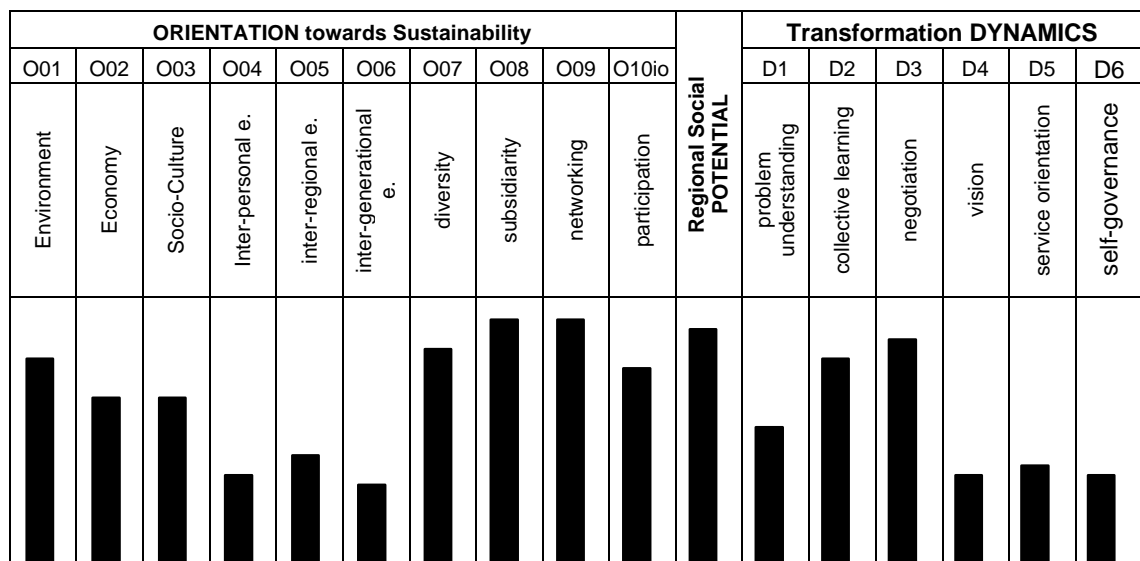
4.2 Using the INSURED framework for comparing approaches

The following questions have been selected for further analysis of the SRD projects:

- Which aspects of the INSURED framework are considered in the general framework underlying the project?
- On which aspects did the original interest concentrate?
- On which aspects did the research actually focus?
- Which aspects were declining in importance during the project?
- Which aspects were emerging or gaining importance?
- Which aspects played a role in the recommendations?

Table A-1 in the annex shows the answers to these questions. The single key factors of the social potential have not been analysed in detail. Especially concerning the transformation levers (strategies) a careful interpretation is necessary: putting a cross at “problem understanding” in the line “emerging” of the table does not mean that problem understanding increased during the project, but that “enhancing problem understanding” as a regional development strategy was increasingly considered as to be important. Figure 3 gives a rough impression of the relative importance attributed to the different elements of the framework (obtained by just counting the crosses in Table A-1 over all projects).

Figure 3: Relative importance attributed to the different aspects of SRD



The results confirm the importance of issues identified in previous sections, i.e.:

- definitions of sustainability / conceptual frameworks
- horizontal interrelations
- vertical interrelations – subsidiarity
- coping with diversity and change – mutual learning
- management tools for sustainable regional development

The most relevant results from this analysis can be summarised as follows.

An interesting feature is, that the equity dimensions attracted very little interest. Even inter-regional equity hardly has been an explicit issue in these projects concerning regional development. Also inter-generational equity has always been part of the general framework of the projects but has not been object of explicit research.

A strong focus has been put on the systemic aspects of sustainability: Especially subsidiarity and networking/partnership were considered to be important. Diversity was an issue that increasingly gained importance during the research process.

Also the regional social Potential, which has not been qualified in detail in this analysis, has increasingly been considered to be important in the course of the projects. A detailed analysis of the various case studies in this regard might be interesting.

Among the transformation levers, “open collective learning” and even stronger “negotiation and co-decision” attracted most interest and have been mentioned most prominently in the recommendations. This emphasises the general process-oriented understanding of Sustainable Regional Development that emerges from this research field.

Many more details could be discussed, looking at the assessment of the single projects in these terms. Especially discussing the dynamics of the research process within the projects, which often does not appear in the final reports, gives insights into the emerging of common elements.

5 Conclusions

The analysis of the project reports, the discussions at the evaluation workshop, and reactions to a presentation of a preliminary version of this paper at a European conference on sustainable regional development³ leads to encouraging conclusions.

5.1 A growing consensus concerning SRD provides a reliable basis for action

Considerable progress has been made in understanding the implications of the concept of Sustainable Regional Development. Despite remaining differences, originally quite distant views and approaches are converging towards a more common understanding. This emerging common view – which challenges a series of more simple approaches in public discussion – can be summarised as follows:

- Sustainability is a complex issue which requires and brings about a new perspective.
- The concept of Sustainable Development stands for a profound paradigm shift which challenges century-old traditions in industrial and economic development as well as in science

³ Symposium “Regions – Cornerstones for Sustainable Development”, October 28-30, 1998 in Graz, organised by the “Austrian Network Environmental Research” and DG XII.

- The emerging concept of sustainability requires new approaches for dealing with complex interrelations between different dimensions of development. Key words are: horizontal integration, cooperation, networking, partnership.
- Attempts to find standardised problem solutions for European wide application encounter difficulties. The meaning of Sustainability depends on the specific context. A common language is required for describing these differences and for exchanging experiences.
- The idea of sustainability deeply challenges our way of dealing with different scales. Multi-level governance and shared responsibility are keywords which lead to a new interpretation of the principle of subsidiarity.
- This new understanding of relationships between different scales and of sustainable governance reaches far beyond the traditional issue of regional development. The multi-cultural research on Sustainable Regional Development is therefore developing a much more general contribution to the issue of Sustainable Development than originally expected.
- Sustainability is a general idea which can be implemented and made more concrete only through the practical management of transformation processes in specific situations. Such a management approach needs general guidelines, procedures for setting specific goals and useful instruments.

The unique form of co-operative European research projects concerning culturally related issues, systematically bringing together research teams of different cultures, undoubtedly has strongly contributed to stimulate these new insights.

5.2 The research results can be useful for pilot and operational purposes

- The developed tools and methods should be applied for practical purposes, tested and evaluated in different European regions. For example the INSURED methodology is being tested in several contexts, among others for structural funds programming in the Midi-Pyrénées region in the framework of a DG XVI pilot projects network.
- The projects reviewed have accumulated an impressive number of case studies all across Europe. To make use of this wealth and to re-examine these case studies in terms of the INSURED framework which is generally applicable, could deliver very useful insights with a limited effort. Moreover, based on that framework, a software is being developed under the label 'SQM – Sustainable Quality Management' which would facilitate a structured storage of relevant experiences and their use by interested practitioners in European Regions.
- After conclusion of the research projects which are still in course under the 4th RTD framework, the present analysis could be updated and completed. The present results indicate that one can expect that such an effort at this point in time would lead to a convincing summary of research done in this area, useful as a reference basis for further work.

5.3 Further research is needed ...

... concerning the implications of the concept of Sustainable Development

The concept of Sustainable Development provides a new (and at the same time very old) way of looking at our world, a new pair of glasses. Even when we agree on a basic understanding of this concept, much has still to be discovered under this new perspective. Past developments, policies, objectives and institutions concerning all kinds of human activities would need to be re-examined and re-interpreted in this view in order to reorient development in a more sustainable

direction. Looking at agriculture, food production, industry development, transport policy, tourism, education etc. with the help of an integrated interdisciplinary approach in the sense of sustainability will lead to the discovery of new interlinkages, opportunities and threats.

A major task for research and research management will be to further develop appropriate methodologies in this sense. Among the projects reviewed here, the first five in **Table 1** have proposed and tested useful approaches in this context which should be further developed. A particular challenge will be to integrate natural science and social science approaches. In its structure the 5th framework programme offers interesting opportunities for this task but an overarching approach still seems to be missing. A useful step in this direction could be the evaluation of past programmes in terms of a wider sustainability approach. Concerning EU ecosystem research networks, concrete propositions have been made to use the INSURED framework for such an evaluation in view of developing a broader dialogue between disciplines (Catizzone 1999).

... concerning tools and guidelines

Changes in perception and understanding cannot be separated from changes in practice. The reviewed projects have shown that tools and guidelines for the envisaged new kind of sustainable governance are conceivable. Useful elements in this direction have already been delivered. They include:

- models for simulating the impact of policies on selected sustainability indicators
- frameworks for supporting qualified public negotiations
- guidelines for developing regional sustainability visions and plans
- frameworks and tools for public participatory decision-making
- frameworks for the sustainable quality management of programmes and for the structured exchange of experiences

Much remains to be done for meeting the practical needs of policymakers at all levels. Within the EU commission a better cooperation between different DGs and different services in developing new approaches and tools would be useful. In several occasions it has proved to be difficult to find funding and commitment for the difficult step between largely free research and concept development on one hand, and the very practical consultancy needs of regional actors and European Program managers on the other. It should be acknowledged that the transition towards a more sustainable development needs a large range of practical experiments. If the EU wants to promote innovation in this sense, a much larger share of funding should be devoted to a diversity of experimental and pilot programmes while increasing the requirements and the efforts for transparent and meaningful evaluation.

... concerning the overall management of SRD

Sustainable Development cannot be achieved by technical experts and specialists alone. It is a top level management task that needs new concepts and assistance. It will require the responsible setting of intermediate goals by political decision-makers, short-term and long-term strategies, increased horizontal and vertical cooperation and therefore also changes in institutional settings and procedures, new skills, openness to learning and innovations in the educational system. Research has to provide new concepts and flexible management frameworks for structuring this overall job which must be suitable for practitioners but should not be confused with specific tools for single tasks. The INSURED project has insisted on the usefulness of the concept of quality management in this context – pointing to the convincing role that this approach has played in developing environmental management schemes in business – and has proposed a corresponding framework. More efforts would be needed in this direction.

5.4 Time has come for a common language and a permanent platform for discussion

By encouraging multicultural research concerning the social and cultural aspects of Sustainable Regional Development, DG XII and the Human Dimensions programme have been able to make an important contribution to the discussion on Sustainability. The specific advantages of this approach should be better acknowledged. Now that some common view seems to emerge from this research it would be appropriate to further encourage and consolidate the development of a common language, to use some common framework for giving orientation to further research.

Considering the beginning of the 5th RTD framework programme, it would seem timely and relevant to establish a more permanent platform for the structured discussion of these issues. As has been seen, intercultural exchange and mutual fertilisation between analysis of past experiences and practical implementation, are essential and require new forms of comparison and confrontation. Possibly the Internet could offer interesting and innovative opportunities for a practical and efficient support of such a forum. In its final conclusions, the Graz Symposium (see footnote 3) has stressed the importance of setting up a Forum for Research on Sustainable Regional Development in this sense.

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Appendix A : Detailed project analysis

Table A-1: Analysis of the projects, using the INSURED framework

		O01	O02	O03	O04	O05	O06	O07	O08	O09	O10	REG	D1	D2	D3	D4	D5	D6
		Environment	Economy	Socio-Culture	Inter-personal e.	inter-regional e.	inter-generational equity	diversity	subsidiarity	networking	participation	POT	problem understanding	collective learning	negotiation	vision	service orientation	self-governance
Mormont	framework	X	X	X	X	X	X	X	X	X	X	X						
	initial interest	X		X			X	X		X	X	X						
	research focus							X		X	X	X		X	X	X		
	declining																	
	emerging																	
LLASS Buttimer	framework	X	X	X	X	X	X	X	X	X	X	X						
	initial interest	X	X	X					X	X								
	research focus								X									
	declining																	
	emerging							X	X									
Larrue	framework			X		X		X	X	X	X	X						
	initial interest	X							X					X	X			
	research focus								X	X	X			X	X			
	declining																	
	emerging								X	X	X	X		X	X			X
Ave	framework	X	X	X			X	X	X	X	X	X			X			
	initial interest	X	X					X	X			X						
	research focus								X	X		X		X	X		X	
	declining																	
	emerging							X			X	X						
INSURED	framework	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	initial interest	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	research focus							X	X	X	X	X		X				
	declining	X	X														X	
	emerging			X				X	X			X		X			X	X
SIIDFCIR	framework	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X
	initial interest	X	X													X	X	X
	research focus												X	X	X	X		X
	declining	X																
	emerging							X			X	X		X	X	X	X	X
STENUM Schnitzer	framework	X	X	X			X		X	X		X						
	initial interest	X	X			X			X	X		X	X	X			X	
	research focus								X	X		X		X				
	declining																	
	emerging					X		X	X				X	X	X		X	
DTCS Beinat	framework	X	X	X		X		X	X	X	X		X	X	X			
	initial interest							X		X	X	X		X				
	research focus					X		X		X	X	X		X	X			
	declining																	
	emerging							X		X	X		X	X	X			
Spartacus Lautso	framework	X	X	X	X	X			X				X	X	X			
	initial interest	X	X	X									X					
	research focus	X	X	X	X								X					
	declining																	
	emerging	X	X	X	X								X					

Appendix B : Further Information on the projects

Summaries and full addresses of the projects concerned can be found in the catalogues of research projects of the European RTD Programme "Environment and Climate", area "Human dimensions of environmental change" or on the CORDIS database.

The project co-ordinators may be contacted as follows:

CT96-0193	Consensus Building for Sustainability in the Wider Countryside	Marc Mormont	Mormont@ful.ac.be
LLASS CT92-0138	Landscape and Life: Appropriate Scales for Sustainable Development	Anne Buttimer	Anne.buttimer@ucd.ie
CT92-0150	The Cultural and Economic Conditions of Decision-making for the Sustainable City	Gastone Ave	ave@corepserver.polito.it
CT96-0238	Environmental protection, subsidiarity principle and spatial related policies	Corinne Larrue	Larrue@rabelais.univ-tours.fr
INSURED CT96-0211	Instruments for Sustainable Regional Development	Ruggero Schleicher-Tappeser	r.schleicher@eures.de
SUDECIR CT96-0271	Sustainable Development of European Cities and Regions	Gerrit Vonkemann	g.vonkeman@geog.uu.nl
STENUM-1 CT96-0272	Development of Societal Mechanisms and Management for the Establishment, Implementation and Maintenance of Sustainable Production Programmes at the local level	Hans Schnitzer	schnitzer@glvt.tu-graz.ac.at
DTCS CT96-0199	Spatial Decision Support for negotiation an conflict resolution on environmental and economic effects of transport policies	Euro Beinat	euro.beinat@ivm.vu.nl
SPARTACUS CT96-0201	System for Planning and Research in Towns and Cities for Urban Sustainability	Kari Lautso	kari.lautso@ltcon.fi

Addresses of the authors:

Ruggero Schleicher-Tappeser, EURES Institute, Basler Str. 19, D-79100 Freiburg

Fax: +49-761-70441-44, e-mail: r.schleicher@eures.de

Filippo Strati, SRS, via G.B. Amici 20, I-50131 Firenze

Fax: +39-055-5002202, e-mail: SRS@dada.it