

Sustainable regional development in the Nordic countries

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Nordic co-operation

takes place among the countries of Denmark, Finland, Iceland, Norway and Sweden, as well as the autonomous territories of the Faroe Islands, Greenland and Åland.

The Nordic Council

is a forum for co-operation between the Nordic parliaments and governments. The Council consists of 87 parliamentarians from the Nordic countries. The Nordic Council takes policy initiatives and monitors Nordic co-operation. Founded in 1952.

The Nordic Council of Ministers

is a forum for co-operation between the Nordic governments. The Nordic Council of Ministers implements Nordic co-operation. The prime ministers have the overall responsibility. Its activities are co-ordinated by the Nordic ministers for co-operation, the Nordic Committee for co-operation and portfolio ministers. Founded in 1971.

Stockholm, Sweden
2001

Foreword

Several years ago, considerable attention was given to the need for regional policy to incorporate the added dimension of environmental protection. The outcome of this phase included a series of handbooks and experimental methodologies designed to facilitate a new form of integration, and this has been applied especially in the context of EU Structural Funds programmes. Currently, the challenges facing regional policy-makers continue to expand as environmental factors are subsumed within a more holistic approach striving to achieve sustainable development. Shifting the focus from national and local administrations to develop the potential inherent in the regional level has become both a research specialism and a methodological problem to resolve in practical terms.

This report presents an overview of activities in the Nordic countries that contribute in various ways towards the emerging field of “sustainable regional development”. As a first stage in this exploration, the approach adopted is necessarily broad, yet it identifies a number of promising examples in the different national contexts. A cross-national, comparative analysis examines the principal activities and impacts of selected projects seeking to address sustainable development as a regional concern.

This overview has been commissioned by the Senior Officials Committee for Regional Policy within the Nordic Council of Ministers. The report is written by Senior Research Associate Keith Clement and Research Assistant Malin Hansen, with Clement as project manager.

The content of the report is based considerably on information derived through interviews and analysis of materials provided by a range of individuals. Nordregio would like to express its appreciation of all those who participated in the interviews and who made documentation available, and this includes academics, researchers, central government staff, regional and local administrators and project managers. It is to be hoped that their innovative efforts are adequately reflected in this publication.

Stockholm, August, 2001

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1. Introduction

1.1 Research Context

With each year, the usage of the term “sustainable development” becomes more widespread. This gradual advancement is impressive in terms of its breadth, comprehensiveness and, above all, its international dimension. Although the moves towards sustainable development in each country vary in character and timeframe, and applications in different contexts are becoming increasingly specialised, there is evidence that these activities are converging at a broad scale and in accordance with European and UN initiatives.

The field of regional development comprises a vital area for the application of sustainable development (SD) principles, not least because of the scope for conflicts between interpretations of development. As an activity that has clear economic, social and environmental dimensions, regional policy holds considerable potential to make a positive contribution to the practical realisation of sustainable development.

In the Nordic countries, whose reputation for high environmental protection extends across the world, there is an emerging perception of sustainable development as a significant future challenge for regional policy. Whereas this view may have heightened awareness of the role of environment and the need for greater integration, it has not yet resulted in a clear identity for the role of sustainability within regional development. Instead, the focus has remained on the national and local administrations as appropriate levels for SD implementation. Even though the regional level may be well-placed to interpret national guidance and/or strategies, as well as providing a framework for local initiatives, regional development activity has not commonly been perceived as an arena for sustainability.

When considering the long-term significance of sustainable development for the regional level, questions that might be raised include whether sustainable development has the capacity to undermine Nordic regional policies, for example by drawing research and investment towards the Nordic, national or local levels, or whether, if defined and integrated appropriately, it could stimulate growth and competitiveness. Furthermore, does its character as a political goal have institutional implications for regional administration? Although these questions are interesting and even fundamental, in the absence of a detailed knowledge of activity corresponding to “sustainable regional development” within the Nordic countries, it has not been possible to estimate either the

current impact or the potential future benefits arising from such a new scenario.

1.2 Aim and Objectives

The aim of this research project was to carry out a first comparative investigation of the Nordic countries providing an overview of public-sector activity corresponding with, or contributing to, the practice of sustainable regional development (SRD).

Rather than addressing mainstream environmental research and development, the report concentrates on the crossroads between economic development and environmental concerns in the promotion of sustainable development.

The knowledge gained from this research is intended to serve as a first step in identifying whether the Nordic countries are comparatively advanced in this field, or whether other countries or regions have made greater progress from which the Nordic countries could usefully learn. From the outset, it was intended that the project results should highlight themes for one or more research projects in the field of regional development that investigate selected aspects in greater depth.

In essence, the project tasks were divided into two specific objectives:

- To investigate the emerging concept of sustainable regional development.
- To identify activities corresponding with the application of SRD in each of the Nordic countries.

1.3 Methodology

The methodology adopted to meet the project objectives was divided into four phases, as follows.

- *Literature review*

This first step comprised a review of key concepts from published material focusing firstly on sustainable development, to set the background for the regional concentration on SRD, and secondly on outputs from European research and development activity related to SRD.

- *Overview of on-going research and new initiatives*

Concentrating on the Nordic countries, this overview identified recent or existing regional policy instruments, institutions, policies or processes

that promoted a balance of the economic, social and ecological dimensions of sustainable development. The task involved establishing contact with approximately 250 individuals in the five Nordic countries of Denmark, Finland, Iceland, Norway and Sweden. Considered by sector, one third of those contacted were based in research and education, one third in regional and local government, one quarter in central government, and the remainder principally in the consultancy sector.

- *Interview programme*

At an early stage, it became apparent that there was no research or project activity in Iceland designed specifically to integrate sustainable development principles into regional development practice. Accordingly, this third phase comprised 30 meetings across the four countries of Denmark, Finland, Norway and Sweden (see Appendix 3). The interviews were designed partly to gain an appreciation of the national contexts regarding SD-related initiatives that would support or encourage SRD activity, but more significantly to explore a series of projects whose stated purpose or method suggested potential to make a significant contribution to the initiation, promotion or monitoring of SRD.

- *Comparative analysis and conclusions*

Following completion of the fieldwork, this stage involved analyses comparing project characteristics from several different perspectives. In addition, a specific remit was prepared for a follow-up project that would examine selected projects in greater depth as case studies.

1.4 Report Structure

The material presented in this report is divided into eight chapters.

Chapter 2 introduces the concept of sustainable development. As an overarching theme that has made considerable advances in recent decades, its characteristics and main initiatives are considered at global, European and Nordic levels.

Chapter 3 reviews the new concept of sustainable regional development. Representing the central focus of this research project, a literature review considers the objectives, methodologies, problems and outcomes from a series of cross-national studies, outlines the European network established to develop SRD, and summarises recent and on-going activity related to sustainable development in the EU Structural Funds.

Chapter 4 to 7 present the results of the fieldwork in the countries of Denmark, Finland, Norway and Sweden. Adopting a common format, each chapter distinguishes between a range of national-level initiatives – potentially relevant as background factors that could support moves towards SRD – and selected examples of regional-level research and/or practice.

Chapter 8 comprises a comparative analysis of the fieldwork results, appraising the regional projects from country and thematic perspectives in terms of their objectives, activities, impacts and contributions to SRD.

Chapter 9 presents conclusions to the report.

2. Sustainable development

2.1 Introduction

Sustainable development has matured from a theoretical concept into practical political guidelines with impact on every level of governance, from the decisions of the United Nations down to the activities of local communities (Kneucker, 1998, p11).

The principal theme that must first be addressed in this report is that of sustainable development. Rather than attempt to define this complex concept, the purpose here is to illustrate the context of debate and review the dimensions within which SRD must operate. These features are examined at three hierarchical levels, considering the global, European and Nordic perspectives.

2.2 A Global Issue

Since its launch with the World Conservation Strategy (IUCN, 1980), sustainable development has steadily risen in status, assuming a central position in writings and discussion throughout the 1990s and into the 21st century. Although applications and interpretations of the concept continue to emerge, its evolution is attributed in particular to the efforts of the World Commission on Environment and Development (WCED), that provided the ubiquitous and influential definition:

Sustainable development is development that meets the needs of the present without compromising the

ability of future generations to meet their own needs
(WCED, 1987, p43).

It also stated that sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all made consistent with future as well as present needs (WCED, 1987, p9).

Extending beyond economics to encompass ethical, societal, institutional and environmental dimensions, sustainable development is clearly very difficult to encapsulate in simple terms. Its initial appeal has been attributed to both its breadth and its vagueness, judged as “palatable to everybody...radical and yet not offensive” (Skolimowski, 1995). However, the differing interpretations reflect the wide-ranging variety of aspirations or visions people have for the future:

Since the Brundtland Report (re-)introduced the concept in 1987, at least forty working definitions of sustainable development have appeared. Consequently, many different projects are furthered under the flag of sustainable development and quarrels have started to emerge about what sustainable development really is
(Hajer, 1995, p1).

No consensus has yet emerged on a single, practical definition that might bring together philosophers, ecologists, economists and political scientists (Crabbé, 1997), but incremental refinements have drawn useful definitional distinctions. In particular, they have encouraged support for the idea that “it is both morally and economically wrong to treat the world as if it were a business in liquidation” (Daly, 1992).

Overarching themes are identifiable. Fundamentally, sustainable development is perceived as process-oriented – referring to the process of developing the planet in a sustainable manner – and, within that process, as progressing towards a specific goal:

Sustainable development is people-centred in that it aims to improve the quality of human life, and it is conservation-based in that it is conditioned by the need to respect nature's ability to provide resources and life-supporting services. In this perspective, sustainable development means improving the quality of human life

while living within the carrying capacity of supporting ecosystems (Reed, 1996, p5).

The corresponding paradigm is generally considered to have three key components, those of economic sustainability, environmental sustainability and social sustainability (Khan, 1995). Economic sustainability encompasses growth, development, productivity and trickle-down effects; environmental sustainability includes ecosystem integrity and attention to carrying capacity and biodiversity; and social sustainability includes variables such as equity, empowerment, accessibility and participation (see Table 1).

Table 1: Key components of sustainable development

ECONOMIC SUSTAINABILITY	ENVIRONMENTAL SUSTAINABILITY	SOCIAL SUSTAINABILITY
Growth Development Productivity	Ecosystem integrity Carrying capacity Biodiversity	Equity Empowerment Accessibility Participation

However, bringing these multi-faceted elements together requires effective institutional change – sometimes cited as a fourth dimension of sustainable development - as well as interdisciplinary vision:

If it is not to be devoid of analytical content, [sustainable development] means more than seeking a compromise between the natural environment and the pursuit of economic growth. It means a definition of development that recognises that the limits of sustainability have structural as well as natural origins (Redclift, 1987, p199).

Consequently, realization of the new paradigm implies a major change in focus for institutions and the development of practical techniques, according to the following principles:

- In contrast to the conventional development focus on human-made capital, emphasis should be placed on natural capital as the main limiting factor.

- A sustainable development index should supersede the conventional indicator of gross national product (GNP) and measure development performance in the context of an integrative framework of social, environmental and economic sustainability.
- Intergenerational assumptions should feature in the assessment of resource availability.
- Waste absorption should be recognised as a major function of the environment and an important limitation to economic growth.
- Methodological tools should be developed to appraise programmes and projects and to assist investment and planning decisions by giving equal weight to economic, environmental and social variables (Khan, 1995).

The subsequent stage of operationalising sustainable development has significance not just for those seeking to demonstrate their environmental integrity, but also for decision-makers that would use the concept for policy design. Distinctions have been drawn between weak, strong and even “absurdly strong” sustainability, highlighting the scope for conceptual flaws at different levels of integration. Ethical dilemmas have also been anticipated, such as how to decide when trade-offs are feasible between an environmental satisfaction and a human satisfaction (Beckermann, 1995).

Evidently, sustainable development brings both problems and opportunities. However, governments at federal, central and regional levels have focused principally on the problems, with typical reactive measures comprising new regulations or “gentle coercion” strategies in an attempt to shift the basis of development onto a stable ecological foundation (Georg, 1994). In practice, these approaches tend to obscure the positive impacts that could arise from conversion to sustainable development if policy-makers' assumptions in industrial and economic development were to be successfully re-oriented.

There is also an issue of interpretation, especially with the emergence of the term “sustainability”. Although in some contexts, sustainability and sustainable development are used interchangeably, other interpretations place sustainability as the overriding concept within which sustainable development forms one component (Reid, 1995). Against this background, there is concern that maintaining the popular focus on the concept of sustainable development may subordinate environmental concerns to economic growth, and in effect avoid the new

questions raised by sustainability. Evidently, the concept of sustainability needs to be better formulated, and its implications understood, interpreted and operationalised for specific situations. Nevertheless, public debate, policy documents and research results of recent years suggest that, in practice, interpretations of the two terms are converging (Schleicher-Tappeser and Strati, 1999, p.8).

After two decades of competing definitions, encountering new questions and devising techniques of measurement, sustainable development has become ubiquitous, yet it still continues to grow in status:

Sustainability still is a somewhat elusive concept midway between politics and science. The discussion about it is old and new at the same time...It is becoming obvious that sustainability is not only a scientific term but also, and prominently so, a political one (Schleicher-Tappeser and Faerber, 1998, p14).

As a global political theme – comparable with concepts such as democracy and human rights – sustainable development has scaled the agenda in national politics and within supra-national institutions. For instance, in 1997 the Special Session of the UN General Assembly set the target that all countries should have strategies or programmes for sustainable development by 2002. These efforts are now being co-ordinated with other preparations for the UN World Summit on Sustainable Development in Johannesburg, 2002. This represents the culmination of an interactive process, through which the discussion of global environmental threats has led to the conceptualisation of sustainable development and presented a new insight: societal functioning invariably results in environmental impact, and therefore environmental problems must be perceived as societal problems.

Accordingly, solutions for environmental problems cannot be based exclusively on knowledge from the natural and technological sciences, but instead must also acquire and accommodate an understanding of how societies act, think and organise themselves in institutional terms. This perception has highlighted a need for further research to identify how institutionalised activity in problem-definition and problem-solving facilitates or hinders the realisation of sustainable development.

2.3 The European Momentum

Within the European Union, sustainable development has seen rapid progress in recent years through a number of initiatives. In parallel with the developing global perspective, the stimulus in Europe has come through concern and activity focused on environmental protection, culminating very recently in the introduction of a sustainable development strategy.

In the early stages of the EU's formation, the original Treaty of Rome made no reference to environment or sustainable development, and it was not until 1972 that a conference of heads of state insisted on a common policy for environment. Thereafter, the status of environment improved incrementally, benefiting particularly from the Single European Act 1987, which set out objectives for the five policy areas of economic and social cohesion, economic and monetary co-operation, environmental protection, science and technology, and health and safety.

With regard to environment, the Single European Act basically restated the principles of the EU's Environmental Action Programmes, emphasising that preventative action should be taken, damage should be rectified at source, and that the polluter should pay. It amended the Treaty of Rome with the introduction of Article 130r(2):

Environmental protection requirements shall be a component of the Community's other policies.

Following this, all Directorates General of the European Commission were under a legal obligation to consider the integration of environmental matters, with environmental protection formally recognised as an EU objective.

In 1992, the Maastricht Treaty of European Union defined the objectives of the Union and introduced as a Treaty principle the concept of sustainable growth that respects the environment. It added further environmental objectives into Articles 130r, 130s and 130t of the Treaty of Rome, and it strengthened the earlier phrasing from the Single European Act, stating that:

Environmental protection requirements must be integrated into the definition and implementation of other Community policies.

It contained statements that environmental protection should be placed on an equal footing with economic development, and that

international environmental measures should be promoted to deal with regional or world-wide problems.

Subsequently, in 1997, the Treaty of Amsterdam formally acknowledged environmental integration as a contributor to the promotion of sustainable development, and it amended Article 6 of the original Treaty to elevate environmental protection to the status of a guiding objective of the Union. It requires the promotion of a high level of protection and improvements in the quality of the environment, to be integrated into the definition and implementation of community policies and activities with a view to promoting sustainable development. This Treaty entered into force on 1 May 1999.

In terms of a regional dimension to sustainable development, the EU Structural Funds have since 1994 required Member States to meet three environmental obligations in preparing regional plans and programmes. These tasks included an appraisal of the regional environmental situation, an evaluation of the environmental impact of the strategy in accordance with the principles of sustainable development, and the involvement of environmental authorities in programme preparation and implementation (CEC, 1993, pp10-15). In new regulations for the Structural Funds approved by the European Parliament in 1999 (CEC, 1999a and 1999b), the horizontal approach to environment and sustainable development was maintained, but with several additional points of emphasis:

- The rates of contribution may be differentiated on the basis of the regional importance attached to the protection and improvement of the environment.
- Structural Funds partnerships at all levels (national, regional and local) must include organisations concerned with environmental protection and sustainable development.
- The European Regional Development Fund must be seen to support the clean and efficient utilisation of energy and the development of renewable energy sources.
- Environmental considerations are to form a greater part of evaluation, especially in relation to the effectiveness of integration.

Specific guidance from the Commission for integrating sustainable development into the Structural Funds has also been published in the form of two handbooks (ECOTEC, 1997 and 1999). The latter publication concentrates on three tools for programme design, namely a

development path analysis, a system for checking a programme against key environmental criteria, and an integrated economy-environment SWOT analysis. These tools do not require the use of quantified data, but instead rely on qualitative assessments of environmental issue and potential impacts. Of the three methods, the integrated SWOT analysis and its associated matrix offer the greatest potential, but the focus remains essentially on environmental sustainability rather than the broader frame of sustainable development.

Progressive steps towards a more holistic approach to development have also been made at successive meetings of the European Council. In June 1998, at the Cardiff Summit, the European Council invited all relevant sectoral Councils to establish strategies for realising environmental integration and sustainable development (CEC, 1998). The Cardiff Summit also approved the principle that major Commission policy proposals should be accompanied by an appraisal of their environmental impact, following evidence that the existing system had proved to be inadequate.

At the meeting in Vienna in December 1998, the Commission was asked to prepare a progress report on the mainstreaming of environmental policy. The Vienna meeting also endorsed employment guidelines aiming at exploiting the potential for job-creation offered by environmental services and environmental technologies. Then in 1999, the Helsinki Summit invited the Commission to prepare a proposal for a long-term strategy dovetailing policies for economically, socially and ecologically sustainable development. This was also to serve as an input to the 10-year review of the Rio process in 2002. In response, a consultation paper was released for discussion at the end of March 2001, identifying a number of unsustainable trends that needed to be urgently tackled, and providing an analysis of the key drivers behind these trends (CEC, 2001a; European Consultative Forum, 2000).

In June 2001, the European Summit in Gothenburg endorsed an *EU Strategy for Sustainable Development*. This advocates a new model of development, decoupling growth from resource consumption and reducing the use of energy and materials:

Sustainable development offers the European Union a positive long-term vision of a society that is more prosperous and more just, and which promises a cleaner, safer, healthier environment...Achieving this in practice requires that economic growth supports social progress and respects the environment, that social policy

underpins economic performance, and that environmental policy is cost-effective (CEC, 2001b, p2)

The strategy is expected to act as a catalyst for policy-makers and public opinion and become a driving force for institutional reform, as well as stimulating changes in corporate and consumer behaviour. It is also intended to complement the goals of the Lisbon, Nice and Stockholm summits, combating poverty and social exclusion and dealing with the economic and social implications of an ageing society.

Promoting both vertical and horizontal integration, the strategy encompasses all sectors and all levels of government. Major policy proposals must now incorporate a sustainability impact assessment addressing their potential economic, social and environmental consequences. New tools and instruments are to be devised, as well as new institutions or new roles within existing institutions, and EU Member States are expected to prepare national sustainable development strategies, following appropriate national consultative processes and involving all stakeholders.

The main threats to sustainable development are identified as global warming, poverty, ageing of the population, loss of biodiversity, waste production, hazardous substances, transport congestion and regional imbalances. To meet these challenges, the Commission strategy is in three parts:

- Prepare a set of cross-cutting proposals and recommendations to improve the effectiveness of policy and realise sustainable development. This should ensure that different policies reinforce one another rather than pulling in opposite directions.
- Establish a set of headline objectives and specific measures at EU level to tackle the issues, which pose the greatest challenges to sustainable development in Europe.
- Take steps to implement the strategy and review its progress.

With regard to corresponding institutional change within the Commission, a new unit on sustainable development has been established in the Environment Directorate (DG XI). Its work relates to the recycling of waste, state aid for environmental protection, environmental aspects in the financial reporting of private companies, analysis of the economics of sustainable development, indicators for sustainable development, and the impact of environmental policy on the competitiveness of European

industry. It also co-ordinates the Consultative Forum for the Environment and Sustainable Development.

2.4 The Nordic Dimension

In the Nordic countries, there are particularly favourable conditions for making a contribution to a transition to sustainable development. This can be attributed to political stability, close co-operation between the countries of the region, well-functioning societies based on the rule of law, financial markets, business and industry, agriculture and populations who enjoy a high level of education and training and have a considerable ability to adjust (Nordic Council of Ministers, 2001, p10)

Similarities between the Nordic countries with regard to social structure, cultural background and the importance attached to promoting the quality of life have facilitated collective formal moves towards a common policy on sustainable development. Demonstrating its acceptance at the highest political levels, the Prime Ministers of the Nordic countries and the political leaders of the self-governing areas adopted a declaration in November 1998, entitled *A Sustainable Nordic Region*. Within this document, a set of eleven goals was agreed (see Table 2), intended to guide the development of the region, while simultaneously steering sustainable development in the adjacent areas.

Table 2: Sustainable Nordic region goals

- Present and future generations must be assured of a life in safety and good health.
- A sustainable society must be based on democracy, openness and participation in local, regional and national co-operation.
- A high degree of awareness concerning the measures and processes leading to sustainable development must be created in society.
- The principles of sustainable development should be integrated into societal sectors on an on-going basis.
- The role of indigenous population should be emphasised when promoting sustainable development.
- Biological diversity and the productivity of ecosystems must be maintained.
- Emissions and discharges of pollutants into the air, soil and water must not exceed the carrying capacity of nature.
- Renewable natural resources must be used efficiently and within their regeneration capacity.
- Non-renewable natural resources must be utilised in a manner protecting natural systems, and renewable alternatives must be developed and promoted.
- Over the long term, xenobiotic substances and substances harmful to humans and nature must be eliminated.
- Appropriate innovative thinking should encourage more efficient utilisation of energy and natural resources.

In fulfilment of these goals, the Nordic Council of Ministers was given the task of developing a cross-sectoral strategy for sustainable development. The Nordic Co-operation Ministers and the Ministers for the Environment then formed a Negotiation Group to prepare the strategy. This comprised twelve high-level representatives drawn from Denmark, Finland, Iceland, Norway, Sweden, Greenland, the Faeroe Islands and the Åland Islands.

The approved version of the strategy – operational since 1 January 2001 – focuses on where the Nordic countries have common interests, where they are well-suited to contribute towards achieving sustainable development, and where Nordic co-operation can create particular added

value. The transition towards sustainable development is expected to bring considerable advantages for economic development, competitiveness and employment, delivering new technologies and competences, and potentially leading to the creation of new markets for Nordic products and services. Realisation of this vision presupposes the active participation of actors at all levels, including local, regional and national governments, business and industry, and NGOs.

The Strategy contains qualitative targets and measures for the period 2001-2004, and long-term objectives for sustainable development in the Nordic Region before 2020.¹ Developing the goals in the Prime Ministers' Declaration, emphasis has been placed on a number of prioritised sectors and action areas. The pivotal point of the strategy is for *six sectors* to integrate environment and sustainable development. These six – selected as the most important for the Nordic countries – comprise energy, transport, agriculture, business and industry, fisheries, and forestry. Developments in other important sectors such as finance, tourism, housing, education and training will be addressed in subsequent phases. *Five action areas* have also been identified – climate, biodiversity, the sea, chemicals, and food safety – each of which is cross-sectoral in relation to the economic sectors. Again, these five action areas represent only the initial selection of horizontal subjects relevant for sustainable development in the Nordic region. The Strategy also includes efforts to promote public participation, strengthen Local Agenda 21 activities, and improve the knowledge base, management instruments and resource efficiency.

The Nordic Council of Ministers for Finance has appraised the Strategy from a socio-economic perspective. It approved the positive coupling between implementing the targets and measures and creating economic and employment growth, for example through international co-operation and creating fair and free competition for Nordic companies in global markets. In further consultations, copies of the draft strategy were sent out to 200 environmental, sectoral (including industrial associations) and issue-oriented (such as cultural and consumers groups) Nordic NGOs. Thirty responses were received, highlighting the need to consider clearer objectives, timetables, indicators, and attention to global and social dimensions (Nordic Council of Ministers, 2001, Annex 3).

Progress in implementation is to be assessed towards the end of the first action period as the basis for any revision of the Strategy in 2004.

¹ The Strategy appears on the Nordic Council of Ministers' website, at www.norden.org

The development of indicators to monitor the Strategy will be a separate action area, to be harmonised with relevant international processes. As the main responsibility for following up the objectives and initiatives rests with the governments of the Nordic countries, the Strategy is expected to feature as an important element in the design of national and international policies and sustainable development strategies.

A separate Nordic initiative on sustainable development, this time with financial support from the Nordic Council of Ministers, has involved universities in Denmark, Norway and Sweden in the development of a joint course on *Sustainable Development in Theory and Practice*. This is aimed at deepening knowledge about sustainable development, primarily with respect to economic growth, ecological economy, green national accounting and ecological footprints.

3. Sustainable regional development

3.1 Introduction

Regions are the natural basis for practical implementation of sustainable development. They are the cornerstones of the edifice of sustainable development...Regional sustainable development is a precondition to achieve sustainable development on a global level (Kneucker, 1998, p12).

In the broad debate on how to achieve sustainable development, the regional level is increasingly perceived as having an important role. With this new emphasis, the challenge facing regional decision-makers is how the general concept of sustainable development can be put into practice and applied productively at the regional level.

In reviewing writings, research and analysis related to this question, this chapter is divided into three sections. First, a review of cross-national SRD research following the methodological approach of the EURES Institute in Freiburg; second, an introduction to the activities of the European Network for Sustainable Urban and Regional Development Research; and third, a focus on the increasing SRD activity related specifically to the EU Structural Funds. The chapter concludes with a brief consideration of the current status of SRD.

3.2 Cross-National Research Activity

The literature indicates that a range of SRD projects has been funded and/or analysed, with the results published to varying degrees. A number of these initiatives have been reviewed in cross-national studies, three of which are considered here. These are entitled the Seven Regions Project, SRD in Europe, and INSURED.

The Seven Regions Project

Funded by the European Commission, seven regions within Europe addressed the objective of comparing experiences and so proposing guidelines for sustainable development at the regional level. Acknowledging the scale of the task, the work was considered from the outset to represent just "one element of learning". The participating regions included Baden-Württemberg, Emilia Romagna, Göteborg and Bohus, Midi-Pyrénées, Rhône-Alpes, Vorarlberg and the Walloon Region. The work was carried out by members of the administration of these seven participating regions, and facilitated by EURES consultants (Schleicher-Tappeser and Faerber, 1998).

This project aimed to document insights into the approaches adopted towards sustainable development in the different regions, and to identify and analyse fifteen transferable best-practice projects.

At the beginning, it quickly became clear that the initial hope of reaching a common definition of criteria and indicators for sustainable development was unrealisable. The different interpretations of sustainability already used by the participants created difficulties in understanding each other, especially with regard to the relative importance of environmental, economic and social objectives. These same differences were subsequently to prove useful as a means of understanding the diverse scope of sustainability. After a broad conceptual framework based on dimensions of sustainability was agreed upon, this was used both for structuring discussions and in assessing policies and projects. It comprised ten distinct elements, as in Table 3.

Table 3: Elements of sustainability

- | |
|---|
| <ul style="list-style-type: none">• Environmental• Economic• Socio-cultural• Equity dimensions<ul style="list-style-type: none">inter-personal (social and gender)spatial (inter-regional and international)inter-temporal;• Systemic dimensions<ul style="list-style-type: none">diversitysubsidiaritypartnershipparticipation. |
|---|

The main activity within the project was in selecting, assessing, and comparing the best examples of projects in terms of sustainable development. Knowledge of regional contexts was considered essential for understanding the different approaches used and for appraising the meaning of the projects from different perspectives. As the most successful projects were those where the local level was involved from the outset, top-down approaches were seen as less appropriate. Sustainable development was perceived not only as a fundamental long-term concept, but as an answer to urgent problems.

The conclusions from this work included that:

- Sustainable development is not only necessary, but also “profitable” in the broadest sense.
- The different backgrounds of regions strongly influence their approach to sustainability.
- The regional and local levels play an eminent role in implementing sustainability.
- Innovative model projects are a key element of sustainability strategies.
- Assessing projects and policies for sustainability must take the specific regional context into account.

The final report included recommendations that regions should continue to learn from each other's experiences, develop a style of governance appropriate for sustainability, and introduce some form of "sustainability impact assessment".

SRD in Europe

As part of the EU RTD Human Dimensions Programme, a broad comparative analysis was carried out with the objectives of gaining a better understanding of sustainable development – especially SRD – and developing practical tools for launching effective SRD policies (Schleicher-Tappeser and Strati, 1999, p8). Nine projects were examined as case studies (see Table 4). They varied considerably in themes and approaches, but fall into two main categories:

- Projects seeking a better understanding of the development process, especially the interaction between different dimensions of sustainability and the necessary preconditions for sustainable development at local and regional levels.
- Projects developing and experimenting with procedures and tools for promoting SRD.

Table 4: Projects selected for appraisal by SRD in Europe project

- Consensus-building for Sustainability in the Wider Countryside
- Landscape and Life: Appropriate Scales for Sustainable Development (LLASS)
- The Cultural and Economic Conditions of Decision-making for the Sustainable City
- Environmental Protection, Subsidiarity Principle and Spatial Related Policies
- Instruments for Sustainable Regional Development (INSURED)
- Sustainable Development of European Cities and Regions (SUDECIR)
- Development of Societal Mechanisms and Management for the Establishment, Implementation and Maintenance of Sustainable Production Programmes at the local level (STENUM-1)
- Spatial Decision-Support for Negotiation and Conflict Resolution on the Environmental and Economic Effects of Transport Policies (DTCS)
- System for Planning and Research in Towns and Cities for Urban Sustainability (SPARTACUS)

These projects were operational for durations of between one and three years over the period from 1992 until 1999, and their activities ranged over fifteen European countries.

The different methodologies used in their implementation comprised historical analysis, interregional comparative analysis, case studies, pilot projects and models/scenarios. The interrelationships examined included social-political, environmental and economic, as well as addressing perspectives that were both vertical (between different scales or hierarchical levels) and horizontal (between different actors, institutions, or development dimensions) over different time horizons. The topics in focus included how key issues were influenced and redefined by the interaction of different actors, as well as how the actors' interaction patterns were modified by the evolving issues; the role of different political levels in successful nature protection cases; and how environmental concerns had been integrated into urban policies. Of particular interest, the project INSURED compared SRD approaches

across Europe, analysed the interrelationships between policies and innovative actions in different regions and developed a provisional framework for the management of SRD (Schleicher-Tappeser et al, 1999).

From the projects analysis, the key issues related to five distinct themes relevant for implementing sustainable development in a regional policy framework.

- *Sustainability and indicators*

Whereas initial understandings of sustainable development differed, convergence took place over time, with sustainability increasingly being interpreted as broader than environmental integration or environmental safeguarding. This suggested a need for a broad, general framework of indicators, supplemented with region-specific indicators in each individual case. The SPARTACUS project developed quantitative indicators and used them to test different policy options for sustainability, but encountered difficulty in measuring discrete subdivisions. To encourage consistency, the INSURED project promoted ten components of sustainability (see Table X) as guidance for integration into policy-making and implementation, based on the idea that sustainability should be considered as a “regulative idea”.

- *Horizontal integration*

It was agreed that functional specialisation and compartmentalising responsibilities have led to perceptions and institutional and behaviour patterns that make integrated approaches very difficult. Responses have varied between cultures, but the regional level – where actors are more easily identified and issues more concretely perceived – was considered to hold great potential to integrate the different dimensions of sustainable development. The SUDECIR project has made progress with tools to meet this challenge by developing systematic approaches for integrated regional development plans.

- *Vertical integration*

Where questions of subsidiarity arose, co-operation between different tiers of government and administration from local to European level were perceived to be essential for success. Key requirements included policies supporting innovative actions, links between levels, and

the capacity to act simultaneously on different levels. As a means of progressing, promoting 'islands of sustainability' was considered to be inadequate; and greater flexibility was necessary to allow interaction.

- *Management tools for SRD*

To gain acceptance, new procedures and tools must be compatible with existing structures, as well as raising questions and encouraging a change in perceptions. Tools developed within the case studies included a guide for developing sustainable regional development plans, a framework for conflict management, a quantitative model for forecasting the impact of policy measures on sustainability, and a framework for quality management of sustainable regional development.

- *Coping with diversity*

Diversity between regions often resulted in the modification of initial, generalised approaches, and this highlighted the need for a common language. Working towards this, a framework to describe and compare specific regional contexts as well as their underlying approaches and strategies was developed within the INSURED project. Its 3-part framework comprised: *orientation*, containing components of sustainability; *potential*, comprising key factors defining a region's social potential; and *dynamics*, identifying levers that describe the transformation dynamics of development strategies. More generally, it was considered that supporting the exchange of experience between regions would be more effective than increasing funding to existing structures.

INSURED

Given its direct relevance to the theme of this survey, the research project on Instruments for Sustainable Regional Development (INSURED) is given special attention here. Focusing on five regions in each of Austria, Germany, Ireland, Switzerland and Italy, the objectives of this project were:

- To draw on the experience gained from successful approaches to sustainable regional development in a variety of European countries.
- To identify key factors of sustainability, including legal, institutional, cultural, financial and management aspects.

- To develop a common evaluation framework for regional development policies and strategies in terms of sustainability using a set of qualitative indicators.
- To work out a set of suitable policy tools for the promotion of sustainable regional development policies.
- To make recommendations for the different policy levels with regard to improved instruments, appropriate institutions and effective implementation procedures (Schleicher-Tappeser et al, 1999).

Rather than aiming solely to test or verify hypotheses, the project methodology was explorative and flexible enough to discover new perspectives or pathways. Elements of this approach included experimenting with different approaches and confronting different disciplines and cultures. The research proceeded through a sequence of four phases.

- *Elaboration of a provisional theoretical framework*

Discussions concerning sustainable development and regional development were reviewed and brought together in the first outline of a common conceptual framework for SRD. Sustainability was perceived as a broad and fundamental concept that could be structured in several components, which in turn must be interpreted in relation to the specific circumstances. Different approaches, interpretations and emphases across Europe were accommodated in an attempt to develop a common language to facilitate mutual understanding and discussion. The outcome was a set of ten "components of sustainability" for the qualitative evaluation of regional development programmes and actions.

- *Comparative description of the five European regions*

General descriptions were prepared by each region, using a common framework, combining sectoral and territorial approaches, and considering recent and future trends. Each partner developed an appraisal of the state of the human, man-made and natural capital; a collection of interesting innovative actions (bottom up) and supporting missions (top down); and a regional SWOT analysis.

- *Empirical analysis of regional experience*

For each region, this represented a two-level investigation. A top-down analysis examined selected policies, institutions and instruments provided by European, national and regional levels; and a bottom-up analysis considered individual projects and development schemes. The top-down analysis showed strong differences between regions and presented difficulties in the direct comparison of policies. Accordingly, the methodology was revised to focus on interrelationships and patterns of communication, where more meaningful generalisation was possible. The analysis of local projects confirmed that the character of programmes and actions is highly dependent on the specific context.

- *Comparison of experiences and enlargement of the framework*

The common analysis framework for the empirical case studies was based on the ten sustainability components developed in the theoretical framework, with additional concepts added to describe the social dynamics. Sixty key factors were identified for successful sustainable development, subsequently systematised into 16 factors capable of expressing “regional social potential”. These factors represent qualities of a regional context that favour SRD, and they are simultaneously *common* (relevant in each local context), *diverse* (they act in different ways depending on the context) and *original* (as they become combined in different ways by local actors). The creative mix of these elements depends on the innovative capacity of the actors using them, as well as the presence of each of these potentials. Six levers (basic strategy elements) were also identified as important for the dynamics of transformation.

The main outputs from the INSURED project were:

- A conceptual framework for sustainable regional development useful both for the regions and for developing a European-wide dialogue.
- Documented case studies from five European regions contributing to the understanding of the dynamics of SRD and containing examples of best practice.
- A series of examples of instruments - options for action and support – drawn from the case studies.

- A differentiated framework for evaluating and monitoring actions and programmes, as well as for developing strategies, designated as a “framework for quality management of SRD”.

In refining the framework for quality management, quality proved yet another concept difficult to define. Different aspects are important in differing combinations, fundamental interpretations differ, and even minimum standards change over time. Nevertheless, the framework focused on methods or procedures through which quality targets could be met or exceeded, and it was also intended for use in assessing or developing region-specific instruments. The *orientation* and *potential* aspects would relate to situation analysis, and for monitoring and evaluating impacts of programmes or other actions, and the *transformation* levers would be appropriate for designing strategies (see Table 5). It was envisaged that the framework could be used from very different points of view, from application by local actors to EU administrators.

3.3 The European Network for Sustainable Urban and Regional Development Research

In addition to the series of cross-national SRD research projects, a separate network of individual researchers and research institutions has been established to focus especially on this field. The European Network for Sustainable Urban and Regional Development Research has the goal of strengthening SRD research, especially in the European context, and establishing it as a major driving force in the transition process initiated by Agenda 21. It pursues these goals through the following activities:

- Bringing together researchers from different backgrounds that are active, or interested, in the field of SRD research.
- Initiating cross-national co-operation between researchers and politicians, administrators and the business sector in SRD projects and programmes.
- Informing Network members on new developments, trends and opportunities in relation to SRD.
- Providing political and administrative decision-makers at national, international and European levels with high-quality information about ongoing SRD research activity.

The Graz Charter on Sustainable Regional Development

The fundamental basis for the Network is the Graz Charter (see Appendix 1). Every member of the Network must sign this Charter and is obliged to follow its code of conduct. This step is considered essential to ensure fruitful and effective discussion, especially in a field developing new methodologies necessary for research progress. Apart from this scientific necessity, a solid baseline is also seen as allowing members of the network to co-operate more efficiently as the adherence to common principles builds up trust in each other.

The Charter supplements the recommendations made by The Brundtland Report, the Rio Declaration, Agenda 21, the Aalborg Charter, the Lisbon Action Plan and the Bellagio Principles. Furthermore, it explicitly defines SRD as “a local, informed and participatory process, which seeks a balance between economic, ecological and social sustainability”.

The Charter defines and addresses the three ecological, socio-cultural and economic dimensions of sustainable development and the role of regions within these contexts. This relates especially to those regions with global ecological significance, the important contributory

factors of local knowledge and cultural heritage, and need to work towards regional subsistence, self-sufficiency and resource efficiency. It acknowledges that a vital element of SRD is the identification of individuals with their cultural and social environment, and it advocates the greater representation of regions at higher levels of decision-making.

The overarching ethical responsibilities of the scientific community are also highlighted. In particular, SRD research is perceived as holding a greater obligation towards future generations, due to its direct political and social influence, and emphasis is placed on the need to uphold ethical values, concerns and expectations.

History and Organisation of the Network

The present European Network for Sustainable Urban and Regional Development Research resulted from the merger of two separate initiatives – those of ENSURE and the Graz Forum:

- ENSURE (European Network on Sustainable Urban and Regional Development) formerly comprised a research group of the European Association for the Advancement of Social Sciences.
- The Graz Forum was the name adopted by a group of researchers that emerged from the Symposium *Regions-Cornerstones for Sustainable Development* held under the Austrian EU presidency from 28-30 October 1998 in Graz.

In the spirit of the Graz Charter, these two initiatives decided to join forces in order to advance the field of sustainable regional development research.

A steering committee is responsible for the activities within the Network, and it also decides on the admission of applicants. The day-to-day organisation of the Network is carried out by a secretariat, which is responsible for maintaining the Network website, the flow of information within the Network and the organisation of events.²

SRD Symposia

The proceedings of the 1998 Symposium *Regions – Cornerstones for Sustainable Development* were subsequently published as part of an International Workshop Series on Sustainable Regional Development (Gabriel and Narodoslawsky, 1998). This volume contains more than twenty papers focusing on European diversity in SRD, planning and supporting SRD, participation and involvement of actors, SRD through

² The Network website address is <http://www.european.association.org>.

co-operation, and the role of research in the sustainable regional transition.

The second major European symposium in this series by the Network was held in September 1999, in Joensuu, Finland, this time under the Finnish EU presidency. The Academy of Finland published the proceedings as an edited collection of sixteen academic papers, as well as a summary of key interventions and round-table discussions (Häkkinen, 2000).

In addition to these major meetings, the secretariat in Graz regularly organises smaller symposia on themes such as evaluation methods and indicators for SRD, sustainable development and societal values, and sustainable production and consumption.

3.4 The EU Structural Funds

In recent years, EU funding has contributed to SRD research through a range of programmes and comparative projects. For example, the European Commission DG Research has supported and/or participated in the work of ENSURE as well as the *Seven Regions Study* described above. Furthermore, through the Fourth Framework Programme for RTD, the Commission financed a study into *Environmental Aspects of Sustainable Regional Development*, the outcome including an inventory of relevant research activities for the 15 EU Member States (Gabriel, 2000). The report recommended that the EU should support efficient links between national networks, co-ordinate national centres of excellence, establish links between scientific networks, funding agencies and political actors, and also link the research networks with those institutions responsible for the EU Structural Funds.

Sustainable development was elevated to a horizontal principle for all Structural Funds instruments for the funding period 2000-2006, and programmes and projects must now demonstrate not only that they respect the environment, but also that greater consideration is given to the interrelationship between economic, social and environmental dimensions. To assist the transition, the Commission Directorates responsible for research and for regional policy co-financed research into methods of promoting sustainable development. The project *Regional Pathways to Sustainability* analysed how 12 pilot regions (for Objectives 1 and 2) experienced sustainable development in terms of the problems faced, the solutions tested, and the lessons learned. The comparative analysis focused on the way these regions tackled five key challenges in promoting sustainable development within programmes:

- Building a shared understanding of sustainable development in the region.
- Building partnerships for sustainability.
- Developing tools for measuring sustainability.
- Improving programme management procedures to promote sustainable development.
- Linking EU structural funding to other instruments for SRD.

The experience of the twelve regions demonstrated that there is no single preferred approach to promoting sustainability. Although provided with a common methodology, the pilot regions approached the task in very different ways. To interpret this diversity and assist comparison, the research method devised four general “pathways” that united various characteristics of the pilot projects. Reflecting on the circumstances and needs of each region, the report observed:

The success of the efforts to promote sustainable development via structural funding depends to a considerable extent on the ability of those involved to address local or regional issues of concern, to build on existing procedures or objectives of programme management and to respect the institutional framework of operation (Moss and Fichter, 2000, p14).

Common lessons were drawn from the diverse approaches, for example appreciating how sustainable development entails a process of learning and adaptation affecting different spheres of programme management. Accordingly, sustainable development could not be implemented as a static blueprint, but must be perceived as a new development paradigm guiding the transition from existing practices towards more integrated, long-term development objectives. The essential features of a successful learning process, as defined by the regions and associated networks, were as follows:

- Strengthening programme partnerships.
- Encouraging greater participation and exchange of experience.
- Subsidiarity, as in capacity-building at the local/regional level.
- Making the management of programmes more transparent.
- Making small but visible changes in appropriate directions.

- Moving from bolt-on to integrated approaches to policy co-ordination.
- Taking a longer term perspective on programme performance and
- Adapting sustainability objectives to meet changing needs.

Overall, the results showed that regions were willing to progress towards sustainable development and that the Structural Funds could play an important role in this process. However, obvious challenges were apparent, especially the need for improved tools and methods for measuring regional potential and progress towards sustainability, and for developing effective partnerships between the many actors involved.

The report suggested several areas for further research. These included identifying the source of the diverse interpretations of sustainability; investigating the human factors shaping development strategies, encompassing motives, influences and interactions; and giving more attention to the institutional framework within which regional actors operate, because established institutions, norms and procedures have a major impact on programme design and management.

The most recent research activity by the European Commission in this field comprises a thematic evaluation on the contribution of the Structural Funds to sustainable development.³ The three main objectives of the evaluation are:

- To develop methods, indicators and approaches for the evaluation of sustainable regional development.
- To identify ways throughout the delivery system for Structural Funds to generate better projects promoting sustainable development.
- To identify the main policy trade-offs being made in regional development policies either explicitly or implicitly.

The tasks to be undertaken include a top-down analysis, devising an economic framework for assessing regional sustainability at programme level; and a bottom-up analysis, establishing a framework for assessing project generation and selection, based on the appraisal of management structures and project selection criteria. Thereafter, the

³ Call for Tenders by open procedure for the Thematic Evaluation on the Contribution of the Structural Funds to Sustainable Development. No 2001.CE.16.0.AT.050

contribution of the Structural Funds to sustainable development will be assessed at the three levels of Community Support Framework or Single Programming Document, Operational Programme and project. The Final Synthesis Report from this research is expected in summer 2002.

3.5 Current status

It is evident that a considerable amount of energy and activity has been invested in the development of SRD in Europe. This comprises not just the involvement of different European countries, but also efforts to clarify perceptions of the concept from different orientations and the correspondingly varied methods for its effective application.

Previous and on-going investigations have resulted in a modest but expanding body of literature devoted to SRD as well as the formation of an international network with members including researchers, academics and government staff ranging from individual municipalities to the European Commission. In the past five years, the growth in awareness of SRD has been matched by a series of studies seeking methodologies that encapsulate the broad notion of the concept, while fashioning a manageable instrument for its implementation in practical terms. In addition, the progress made in interpreting SRD has resulted to some extent in greater understanding of the content, meaning and different dimensions of sustainable development.

Most of this work is cross-national in approach, and this seems characteristic of the field. From the outset, the use of comparative studies has been favoured as a means of highlighting greater insights into factors facilitating or hindering SRD realisation. Although the research invariably encounters wide diversity in approaches, it is still valued as a tool to isolate and analyse factors that may be important for transferring experience either between national policy regimes or between specific regional contexts.

In addition to the common understandings, a number of characteristics have already been identified within the studies as key elements for addressing SRD. These include, amongst others, that diversity is fundamental and no single approach will be universally applicable, that regional contexts determine the appropriate components of SD or SRD to be employed, that there is a need to identify and develop SRD indicators – perhaps on two levels – that both vertical and horizontal integration must be considered, and that proposed new tools must be compatible with existing structures.

With the launch of the EU initiative to promote SRD in the Structural Funds – which has the potential to become the most influential SRD document yet to appear – it is to be expected that all these factors

will be synthesised in the combined top-down and bottom-up approach. Thereafter, the resulting handbook may have an influence that extends beyond the Structural Funds both to produce a framework for existing applications and a focus for further cross-national research activity in Europe.

4. Denmark

4.1 Introduction

Within the Danish policy context, fieldwork for this project identified a range of national-level initiatives considered relevant as background factors potentially supporting moves towards SRD. The categories used here to accommodate their descriptions comprise sustainable development strategy, environment and sustainable development, regional development, regional planning, green enterprise strategy and green city Denmark.

With regard to regional-level research and practice, three examples are included, and the information is presented according to background, methodological approach and outcome/assessment. These projects comprise:

- Local Agenda 21, Storstrøms County
- Strategic Environmental Assessment in Regional Planning, Greater Copenhagen Authority
- Destination 21, Copenhagen

4.2 National-level Initiatives

Sustainable Development Strategy

The requirement to prepare a national sustainable development strategy is written into the Danish Planning Act, and work on this initiative was launched in October 2000. This is a relatively late start in comparison with other countries, as Denmark was slower to respond to the Rio initiative because of its confidence in the high level of Danish environmental protection. Prior to the formal preparation of the strategy, several working groups were active identifying key characteristics to support sustainable development in Denmark, with one group focusing exclusively on industry. Otherwise, sustainability has been an active research focus in Denmark, at least in general terms, but with attention

directed principally to theory-building rather than to practical applications.

Initially, the Danish Government directed the Ministry of Environment and Energy to prepare the strategy, but the task was subsequently given to the Prime Minister's office, a decision that was well received. A proposal was presented in March 2001, containing eight objectives and principles, and inviting all interested parties to take part in a public consultation and broad dialogue. Following the consultation period, minor amendments were made to the strategy, and the finalised document – *Development with Care: A Shared Responsibility* – was published in July 2001, establishing priorities and targets for Denmark over a 20-year period. A proposed set of indicators for the strategy was published in a Discussion Paper in April 2001, detailing 16 key indicators and proposals for sectoral and cross-sectoral indicators. It is intended that viewpoints aired in the debate prior to August 2001 will be used to select a final set of indicators to monitor and report on the progress made in implementing the strategy.

Prior to the formal launch of work on the strategy, research activity in this field in Denmark was mostly in the area of economic sustainability, in the form of a government-initiated sustainable society programme that catered for economic and social issues. This material was incorporated into the new broader strategy, on the understanding that these dimensions had already been adequately researched.

The Danish counties have been invited to identify their preferred form of strategy for the fulfilment of Agenda 21, and again this is linked to planning legislation. Critically, however, this action is not compulsory for the counties, which retain some independence from central government in this area of policy-making.

Environment and Sustainable Development

Prior to the development of the sustainable development strategy, the emphasis in Denmark was principally on environment. This relates to the country's international reputation and strengths in environmental assessment and its integration into decision-making, which has been very effective and widespread. For example, regular reporting of environmental conditions supports the focus on environmental sustainability.⁴ However, in practice, this positive feature has also acted as a constraint, hindering a reorientation towards sustainable development approaches. There have clearly been difficulties for Denmark to move beyond this

⁴ Ministry of Environment and Energy (2000) *The Environment in Denmark 1999: Selected Indicators* MEE, Copenhagen.

substantial environmental focus and institutional capacity that has come to represent a national specialism.

Strategic Environmental Assessment (SEA) is used as a tool to promote sustainable development in Denmark, following a decision from the Prime Minister obliging government departments to assess their own proposals. Guidance produced by the Ministry of Environment and Energy⁵ facilitates evaluation of appropriate government bills and proposals, addressing environmental effects, alternative options, time perspectives and uncertainty. However, although contributing to the conditions for achieving sustainable development, the focus is essentially on the ecological dimension, with no coverage of factors such as distributional, ethical or economic aspects. In addition, SEA is understood to mean different things by different ministries and even by different departments within ministries. SEA theory is clear, but SEA practice is still to be developed to ensure a direct correspondence between national, regional and local applications.

Each year, the Ministry of Finance assesses the national budget environmentally. Although the results are presented as a SEA of the Danish budget, reports from previous years have been perceived essentially as economic evaluations of the environmental parts of the budget. However, in 2001, the published report focused directly on the consequences of the whole budget for the environment.

Regional Development

As an overarching framework, a new general enterprise strategy called DK21 addresses how to promote the initial conditions for economic development, which the counties can then develop this as part of regional development.⁶

Also at national level, the Ministry of Trade and Industry produces regional economic development programmes. These are basically sectoral programmes that provide a framework for directing economic development. To date, there have been no strong links between regional economic programmes and regional physical plans, even though both instruments are produced in the same county administrations. Attempts to integrate the two worlds of regional economic programmes and regional planning have been made by the Ministry of Environment and Energy.

⁵ Ministry of Environment and Energy (1995) *Strategic Environmental Assessment of Bills and other Government Proposals: Examples and Experience*, MEE, Copenhagen; Commission of the European Communities (1998) *Strategic Environmental Assessment of Policies in Denmark* DG XI, Brussels.

⁶ www.dk21.em.dk.

Published in 2000, the Ministry's National Planning Report formed an important element of the Danish submission regarding the EU's European Spatial Development Perspective, but it has not yet made a substantial impact on the programmes.⁷

In the Environmental Protection Act 1972, it was stated that environmental harm should be balanced against economic benefit. In practice, because economic benefits were high, this conditional clause has often resulted only in the mitigation of environmental impacts. Consequently, that particular paragraph has attracted challenges, stating that no trade-off should be considered.

Regional Planning

Area planning or spatial planning is the responsibility of the Ministry of Environment and Energy, which carries out national-level planning under the Physical Planning Act, complemented by counties and regional-level authorities. In practice, it is considered that the planning process continues to give greater importance to generic planning issues than to broader sustainable development considerations, and this occurs at a number of levels. Again, because of the strength and sophistication of the environmental component of planning administration, Denmark is partially constrained from integrating alternative approaches.

The Danish regional planning system is principally an environmental planning system, as substantial effort goes into the environmental aspects of planning practice. The reasons behind this include that environmental policy was developed earlier in Denmark, and over time it has strongly influenced the planning system.

To a certain extent, there continues to be a mismatch between EU requirements and the means by which the Danish planning system operates. Whereas the Danish national-county-municipality hierarchy fits well together, it is not compatible with EU methods, which have been resisted as less efficient than Danish methods. Recently, however, criticisms have been expressed that sustainable development initiatives such as Local Agenda 21 are not well integrated into the planning process in Denmark, and that they function in parallel rather than as integrated features.

On-going initiatives include the *Planning System for Sustainable Development* (PSSD), which is being developed in Denmark by the National Environmental Research Institute, part of the Ministry of Environment and Energy. It comprises tools for sustainable planning directed towards regional planners in the Baltic area, and the “toolbox” is

⁷ Landsplanredegørelse, 2000

now being tested in North Jutland in Denmark and in South West Finland.⁸ Another international project known as SUSPLAN seeks to integrate sustainability objectives into the regional planning process and procedures. Two of its case studies in Denmark will focus on water and biodiversity, and the results are intended to inform the policy process at Viborg County, which directly supports this work.

Green Enterprise Strategy

The Danish Ministry of Trade and Industry is currently working on developing a green enterprise strategy in co-operation with the Danish Ministry of Environment and Energy.⁹ Scheduled for completion in August 2001, the strategy will comprise a vision, framework and a coherent set of guidelines for Danish enterprise policy-making on environmental issues. This includes identifying core policy areas and devising concrete suggestions for new political initiatives. The vision is that environmental issues may profitably be integrated into business practices and that a strong environmental profile will eventually become a market standard. The methodology will be to promote “greening” as an asset, providing incentives, building knowledge and promoting technological innovation and mobilising change, amongst other factors.

Green City Denmark

In co-operation with the Ministry of the Environment and Energy, the Danish Ministry of Trade and Industry has initiated a limited liability company known as Green City Denmark A/S. Its aim is to establish a visible showcase for Danish environmental technology and expertise, based on 25 years of environmental legislation and associated environmental improvement, research & development and education. Its work is concentrated mostly in the area referred to as the “green belt”.¹⁰

Green City Denmark has more than 250 shareholders, including companies, institutions and municipalities from all over Denmark, and it has an international network of co-operation partners both within the public and private sector. This forum includes access to a comprehensive environmental network with systems addressing:

⁸ Further information on this project is presented in Section 5.3 on Regional-level Research and Practice in Finland.

⁹ Andersen, M (2000) “Green Competitiveness as a Business Strategy: The Greening of Danish Enterprises and the Challenge to Enterprises and Enterprise Policy-Making”, Paper presented to the Second EURO Conference, Ålborg, 18-20 October.

¹⁰ This area comprises the municipalities of Århus, Silkeborg, Ikast, Herning and Videbæk and the counties of Ringkjøbing and Århus.

- Renewable energy sources, energy supply and energy savings.
- Water supply and waste water treatment.
- Waste management, soil pollution and air pollution.
- Cleaner industrial technologies and green management.
- Agriculture, food industries, green consumption and green city shops.
- Urban ecology, building construction and renewable, sustainable urban management.
- Traffic, transportation and tourism.

Training activities include environmental audits, environmental management, operating and maintaining cleaner industrial technology, water supply/waste water treatment, energy supply/renewable energy sources, waste management and urban ecology. There is also extensive co-operation with international partners such as UNDP, UNIDO, DANIDA, DANCED and the European Commission, promoting global sustainable development.¹¹ During the last six years, Green City Denmark has arranged over 300 delegation visits from more than 40 countries. Focusing on “best practice” is considered to motivate visitors and thereby directly influence global environmental conditions.

4.3 Regional-level Research and Practice

Local Agenda 21, Storstrøms County

Background

In February 1999, a change to Danish legislation introduced a deadline for local authorities to prepare Local Agenda 21 (LA21) strategies ready for adoption by the end of 2003. For most authorities, this represents a first-generation strategy, a new process of a top-down initiative that will in most cases be expected to meet resistance. For Storstrøms County, which has been active in this area since 1991, the strategy will represent the effective cumulation of years of project-level work and related bottom-up inputs. As a consequence, the consultative process will be more extensive, benefiting from lessons learned in this previous experience.

The activity at Storstrøms County encompasses a range of sustainable development initiatives launched within the framework of LA21. It has addressed themes such as eco-education, a green citizens service, quality of life and nature, assisting individuals to define ideas and

¹¹ www.greencity.dk/who_are_we/index.html

develop new initiatives, and international co-operation. It has also included direct engagement with a green business project, an LA21 Action Plan, and strategic inputs to the County Council's regional plan.

Methodological Approach

The first instrument used by Storstrøms to promote sustainable development was the Green Region Project. In 1992, this initiative received a UN environmental award at the Rio Conference, as well as three other awards from the European Regional Industrial Development Organisation (ERIDO), the Danish newspaper *Det Fri Aktelt*, and the Ford Foundation. An associated Green Council advises the Green Region Project, meeting twice a year to review the work of its six thematic groups. Instead of the usual top-down approach of producing a strategy, then an action plan, and then encouraging project activity, this initiative adopted a bottom-up approach. Using concrete examples of green business practice as demonstration projects, especially the use of cleaner technology, the pilot project was specifically designed to stimulate action.

The results of this first step included an established network for green business development, encompassing both private and public-sector companies, and work on securing “sustainable development into business”. Its active elements were directed at inspiring people and changing thinking, whereas its passive elements supported individuals and companies working for on-going change. The Green Region project led directly on to a Charter for Sustainable Development in Storstrøms County in 1996 and an LA21 Action Plan in 1997. The Action Plan identified specific areas for action and included a description of each activity, its timing and responsibility. It considered internal actions, directed at integrating sustainable development into everyday Council activities, and external action, devising proposals for introducing SD goals into regional development.

As an overview body, a Cross-Departmental LA21 Co-ordination Group administers the LA21 process in the County Council. Comprising 11 members and chaired by the Department of Technology and Environment, it includes representatives from four other departments responsible for social services, education, culture and the labour market, health, and economy (including business development).

Another important methodological step has been the Green Region project's contribution to the Storstrøms County regional plans. In the first plan to incorporate this input, it was assumed that these ecological principles should be presented as a new 'green chapter'; however, the County's LA21 Unit resisted this approach, perceiving it as ineffective integration and preferring to make more selective contributions. In the

new version of the regional plan for 2001-2013 – which is still in preparation – it has been agreed that LA21 should appear amongst the guiding strategies at the start of the document. Accordingly, in the first discussion draft, currently out for consultation, LA21 material is introduced at the very beginning, forming an essential part of the framework. Once the second discussion draft has been agreed, the new plan will be finalised by the end of 2001.

Other instruments contributing to the overall momentum include a pilot project for coastal zone management, nature protection and marine areas in relation to the sustainable development of the Southern Danish Archipelago. With more than half of its tasks completed, this project has provided information that has directly influenced the orientation of the LA21 Action Plan. Another operational programme relates to agricultural practice, advising farmers on how to reduce the level of nutrients entering streams and to improve farming methods. This programme is now almost completed, and it has involved direct contact with about 100 farmers.

Other useful links have been made to the business community, especially through environmental business clubs and a network of development directors that co-operates to produce flexible development programmes, rather than opting for fixed strategies.

Outcome/Assessment

Responses to the regional plan consultation document were very positive. A number of municipalities now acknowledge that LA21 should be utilised more in the rural development process, NGOs formally approved the approach adopted, and certain business centres pressed for even greater integration of LA21 and SD principles. Thereafter, a paper presented to the County Council reviewed these responses and identified the following pointers for future activity:

- Work should continue based on the existing experience of LA21.
- The County Council should further develop efforts to integrate the principles of sustainable development into its programmes, plans, policies and process.
- A proactive effort should be made to operationalise SD and to initiate strategic assessment of County Council plans and decisions.
- County Council actions and local actions should be strengthened to promote compatibility with SD.
- Costings should be developed for extending the dialogue and expanding practice.

The County Council has formally approved this summary paper, and it is hoped that these points will be entered directly into the finalised regional plan. The next stage in this process is regional plan implementation, when county departments will be encouraged to approach the LA21 Unit for advice or criteria as guidance for sustainable development integration, both in modelling actions and in practice.

SEA in Regional Planning, Greater Copenhagen Authority

Background

The new Greater Copenhagen Authority (*Hovedstadens Udviklingsråd* or HUR), formed in 2000, was appointed to work with instruments for spatial and land-use planning and regional development, as well as inward investment and business development. With an emphasis on co-ordination, various transport and planning initiatives that were previously crossing administrative boundaries – and so requiring inter-county co-operation – have been brought together by the HUR in a higher form of regional co-operation.

There are four specialist groups in the organisation relating to regional planning, sectoral planning co-ordination, traffic and data. The majority of the authority's work is in transport, but it is also involved with environmental impact assessment, linked to the planning law. No reference is made to sustainable development in the law setting up the organisation, but a recent “Mission and Vision” paper on future work has incorporated this theme.

HUR's main responsibility is the production of a 4-year regional plan. The first regional plan, for the period 2001-2005, is based on proposals submitted from the counties; the next plan – for 2005-2009 – will be devised by the HUR. These plans deal with the following themes:

- Zoning/planning of land-use, including urban growth.
- Infrastructure and technical installations, namely transport co-ordination, public transport, roads/harbours, electricity/gas, waste facilities (capacity of landfill and incineration), water, and coastline preservation.
- Protection of nature, culture and landscape areas, water resources, flora/fauna, cultural history, vulnerable landscapes, nature responsibility, and noise protection.

As part of its co-ordination role with regard to the county plans, the HUR is launching a pilot project in summer 2001, an exercise that is expected to last for up to nine months. The designated task is to apply the technique of strategic environmental assessment (SEA) to appraise the 2001-2005 county development plans.

Methodological Approach

The authority's interpretation of SEA is influenced by several factors. At European level, these include EU directives and the European Spatial Development Perspective (ESDP). Within Denmark, they include Local Agenda 21, various State guidelines to regional authorities, the Nature Council's report on sustainable development, public participation (following the Aarhus Convention), and national goals for the Oresund region (such as aiming to become one of the cleanest regions in Europe).

Before the methodology can be finalised, attention will be given to a number of questions regarding scope and responsibility. For example, should the assessment concentrate on factors within the HUR's jurisdiction and administrative boundaries, or should it seek to influence other actors and regions outside Greater Copenhagen? Viewing the task pragmatically, should actions be guided by the limits of what local politicians can influence?

Provisionally, several themes are being considered for inclusion. These topics include assessing the consequences of pursuing sustainable development goals and guidance, and identifying the appropriate environmental parameters (global rather than local, performance comparisons with the objectives of national goals, and the split between private and public share of transport). Other elements might comprise the identification of alternatives, relating to quality standards or benchmarks, and assessing how the SEA study can be framed subsequently to influence the orientation of the 2005 regional plan.

Outcome/Assessment

As the project has yet to be launched, outcomes cannot be identified or assessed. However, it may be considered that applying SEA without a working definition of sustainable development limits the impact that this project can have. This narrower approach is based on national guidelines, which are SEA-focused, and at this point the authority considers it pragmatic to commence this new operation on a small scale.

Destination 21, Copenhagen

Background

Based upon the principles outlined in Agenda 21, the Danish tourism initiative of Destination 21 commenced in 1997. The originators included

the Danish Tourism Board, which addresses international markets, the Tourism Development Centre, which has an educational and knowledge-dissemination role, and the Outdoor Council, an umbrella organisation for nature and countryside matters. The common objective was to promote a means of realising sustainable tourism in Denmark, basically by developing a destination-labelling scheme.

The scheme is based on geographically defined areas in which the municipalities endeavour to comply with Agenda 21's concept of sustainable development and to implement this into tourism policies. Accordingly, the scheme aims to promote sustainability within the entire region, as well as targeting the tourism planning framework, and its products and services. This means that participating regions must work not only with the tourism infrastructure, but also with all other resources and industries within the region.

Initially, the uncertainty of the timescale associated with this venture meant that the idea encountered institutional resistance. In addition, there was scepticism that a project of this nature could achieve tangible results. Representing a new style of working and proposing to use an unfamiliar structure, the initiators expected that such challenging parameters would result in cautious reactions at the early stages.

Overall, it took 18 months to establish the Destination 21 framework. Financial support for launching the initiative is divided between the Ministry of Environment and Energy, which has a high involvement, and the Ministry of Trade and Industry. However, it is envisaged that the scheme will eventually be self-financing, potentially through charging membership fees and/or conducting consultancy services.

Methodological Approach

To participate fully in Destination 21 (D21), regions are required to work through a 3-phase process – a pre-qualification phase, a qualification phase, and an operational phase. The pre-qualification phase consists of the formation of a Local Destination 21 Steering Committee, which represents various stakeholder groups, including a local environmental organisation, and which makes the formal application to participate. For those regions accepted, the qualification phase lasts for 12 months, during which time several obligations must be met, in the following sequence:

- Formulate an overall strategic vision.
- Conduct a qualitative SWOT analysis to determine existing values and resources.

- Prepare a detailed inventory assessment to generate base data for measuring annual progress.
- Formulate sustainable tourism development objectives.
- Develop an action plan, specifying activities and initiatives necessary for meeting the objectives.
- Prepare the first annual Destination 21 report, identifying progress made towards sustainable tourism.

In the operational phase, the region receives the Destination 21 designation, is entitled to use the associated logo, and it continues the cycle of improvement initiated during the qualification phase.

Eight sustainability goals underpin all D21 activity, focusing on ecological sustainability (the carrying capacity of the natural environment), economic sustainability (balancing potential social and commercial financial earnings), and socio-cultural sustainability (integrating the local population's social and cultural heritage and integrity). They relate to the following themes:

- Local organisation, co-operation and mutual strategy.
- Capacity-building towards sustainable development.
- Promotion of Destination 21 philosophy and practice.
- Management and accessibility of natural and cultural heritage assets.
- Strengthening and increasing local culture and authenticity visibility.
- Reduction of resource use and pollution.
- Creating and enhancing employment within the local economy.
- Promoting the development of new sustainable tourism products.

Associated with these goals are 37 sustainability indicators. The indicators represent a combination of D21 requirements, such as ensuring a minimum level of environmental quality in the regions, and other demands defined locally by each destination.

D21 uses a combination of top-down and bottom-up approaches. The top-down element acknowledges and enforces certain minimum environmental requirements already established through government regulatory and policy frameworks. The bottom-up element allows the public authorities and Local Destination 21 Associations the autonomy to set their own agenda for meeting the required criteria, so facilitating greater participation. For example, this might involve businesses controlling their environmental effects either through purchasing

materials from renewable or recycled sources or by modifying operations to reduce outputs of waste or emissions.

No finance is offered to the regions through Destination 21, but rather advice, guidance and access to a manual, the substance of which is drawn from Agenda 21.

Outcome/Assessment

Of 14 regions that applied for pilot status, seven were accepted (considered a manageable number), and they are currently involved in the pre-qualification phase. It is hoped that all the pilot regions will progress to full Destination 21 status. Two regions – those of Odsherred and Mon – are now preparing to enter the qualification phase, whereas the others are at differing states of readiness and willingness. After regions have successfully worked through the “self-improvement” process to the operational phase, the D21 Secretariat will encourage them to assist in steering other regions through the experience, so establishing a mentoring network.

Destination 21 will operate in accordance with the Brundtland definition, maintaining that sustainability and development are compatible aspirations, and the various criteria are linked to achieving progress in a balanced and sustainable manner. However, in practical terms, following the guidelines may not always equate with greater competitiveness or visibility. For example, a specific region may be advised to accommodate fewer tourists, not more, which would lower the regional income for a qualitative environmental gain. If this scenario were to meet resistance from areas with over-touristing, the sanction would be to remove them from the D21 list. It is hoped that the project will gather sufficient momentum and status that this threat would influence a region's reaction.

Potential barriers to implementation are perceived as the lack of awareness by municipalities of the impacts and importance of tourism, which is often not considered to be an industry in its own right, and a reluctance to implement Local Agenda 21 initiatives, due to their complexity and a lack of familiarity. In addition, there may be a corresponding lack of understanding that D21 can assist councils to progress towards the fulfilment of Agenda 21.

In future, it is anticipated that the initiative will continue to evolve. The manual will be periodically updated and methods changed to improve effectiveness in the light of experience, but it is also hoped that the project can contribute to the Baltic 21 process, as well as gaining EU support. With regard to the latter option, a LIFE application is currently pending (Eurodestination 21) for an enlarged project that would involve

co-operation with Spain and Portugal, testing the concept and elaborating on the indicators.

5. Finland

5.1 Introduction

In Finland, a number of major national-level initiatives were identified as relevant, several of which had a direct bearing on creating conditions favourable for SRD. The thematic groups used to describe these initiatives comprise the Finnish National Commission on Sustainable Development, sustainable development programmes, environment and land use, sustainability indicators, ecologically sustainable construction, and environmental cluster research.

For the review of regional-level research and practice, four Finnish examples are included from Finland:

- PROPOLIS, Helsinki.
- Learning Sustainability, University of Lapland.
- Planning System for Sustainable Development, Päijät-Häme Regional Council.
- Strategic Environmental Assessment in Regional Development, Häme Regional Environment Centre.

5.2 National-level Initiatives

Finnish National Commission on Sustainable Development

In 1993, the Finnish National Commission on Sustainable Development (FNCSD) was established to promote and co-ordinate on-going SD efforts. Following a renewal of its mandate in 1998, its term as a consultative forum now extends to 2002. With 45 members and 13 technical experts, it is chaired by the Prime Minister and co-chaired by the Minister of the Environment. The members are drawn from national ministries, government agencies, local government, a range of NGOs, the business and productive sectors and other public interest groups. Its subcommittees focus on education and training, production and consumption patterns, socially-just development, and local aspects of SD. The Ministry of Environment provides the financial resources for the commission's daily activities, and this is supplemented by contributions from the Ministry of Social Affairs and Health and the Ministry of Education towards relevant subcommittees.

The FNCSD's early goals and objectives included the promotion and co-ordination of SD implementation in Finland, and the preparation

of Finland's position and national reports for submission to the UN Commission on SD. One of its first initiatives was to define SD for the Finnish context, concluding that it was a “continuous, guided process of societal change at the global, regional and local levels, that provides present and future generations with the opportunity to lead fulfilling and productive lives”.¹² It also identified the operational dimensions of SD as ecological (integrated with economic), social and cultural.

A comprehensive report was published in 1995, entitled *Finnish Action for Sustainable Development*. In this document, the FNCSD presented a summary of various measures to promote SD already in progress or forthcoming, both domestically and internationally. Three main categories were employed, those of economy and resources, sectors with significant implications for SD, and prevention of environmental change and damage. For each theme, the concept of SD was adapted to fit the precise context, specific objectives were discussed, and methods for their realisation considered. This publication still serves as a basic reference book of the subject of SD in Finland.

Subsequently, in 1998, the FNCSD's renewed remit was expanded to include supporting the implementation of SD programmes and strategies by the government and other agencies, and promoting the development of indicators for SD as well as other concepts and instruments (such as socially sustainable development, new concepts for human, social, natural and man-made capital, eco-efficiency and material flow accounting). One of its primary contributions has been to support the Finnish Government in the preparation of a national programme for SD.

Sustainable Development Programmes

In 1996, Finland's principal industrial, entrepreneurial and trade organisations, along with agricultural producers, forest owners and local authorities, were asked by the FNCSD to prepare individual programmes for sustainable development. The Association of Finnish Local Authorities, the Confederation of Finnish Industry and Employers, and the Federation of Finnish Commerce and Trade have all completed their respective programmes. Various NGOs – co-ordinated by the Finnish Association for Nature Conservation – have also prepared an individual sustainable development programme, and others are currently in preparation.

In June 1998, the Finnish Government adopted a national Programme for Sustainable Development. This programme analyses

¹² Vountisjärvi (1998) p.3

ecological, economic, social and cultural aspects of SD in a Finnish context, and it contains guidelines for sector-specific actions such as production and consumption, transport and human settlements, rural development and energy. Government agencies in each sector were then asked to prepare SD programmes. The overall effort was co-ordinated by the Ministry of the Environment, while the FNCSD acted in an advisory capacity, introducing the views of major groups in society.

In summer 2001, different government sectors – amongst other actors – will report to the FNCSD on the state of SD in their respective areas, as well as on progress with the implementation of the government programme. Following these sectoral reports, an overall report evaluating national progress in implementing the different programmes and the state of SD in Finland will be drafted for the 2002 Earth Summit Rio+10 meeting.

Environment and Land Use

There is a strong perception of environment as the field from which SD has been developed and promoted in Finland. In practice, the work on SD is organised as a project based within the Ministry of the Environment, with reports going directly to the Secretary General of the FNCSD, who also works for the Ministry of the Environment.

A new Land Use and Building Act came into force on 1 January 2000, in which SD has been included as an overall goal. In addition, the government defines national land-use goals that may apply to regional structure, quality of the living environment, infrastructure, ecological sustainability, and natural and cultural heritage of national importance¹³.

Sustainability Indicators

Finland participated in the testing of the provisional UN indicators for sustainable development during 1996-99. The results showed that not all of the 134 indicators were suitable for measuring SD in Finland, and it was resolved to develop additional indicators better adapted to the Finnish conditions. A working group with the designation “Indicator Network” was established, comprising representatives from nine central government ministries and several institutes and associations, to assist in preparing a proposal for Finland's SD indicators.

Amongst other things, this group is trying to develop indicators for economic development – more specifically, economically-sustainable development – defined as “growth balanced in content and in quality, in

¹³ Ministry of the Environment (1999) *The Built Environment in Finland: Land Use, Housing and Building*, MoE, Helsinki.

the long term avoiding both debt and destruction of resources.¹⁴ Part of the methodology is to conduct in-depth studies with the purpose of selecting a core of national indicators that are harmonious with the national priorities set out in the government's SD programme. Some of the indicators will be transferred directly from the UN list, but new indicators will also be introduced.¹⁵

In broad terms, many SD indicators in Finland reveal positive trends. Emissions have diminished considerably in recent years, the different industrial sectors are seeking to achieve further reductions, and such actions are strongly promoted by the legislature. However, other indicators show that traffic levels, total energy use, and the amount of waste generated have continued to rise, while production and consumption shows an increase in total natural resource usage. The next publication on indicators for sustainable development in Finland will appear in 2002.

Ecologically Sustainable Construction

For the construction and real estate sectors, targets and actions derived from the national Programme for Sustainable Development are set out in the Finnish Programme for Ecologically Sustainable Construction. It underpins the philosophy of the Land Use and Building Act and its associated objectives of furthering how land-use and building can promote sustainable development, reduce environmental hazards and conserve natural resources. This initiative concentrates on ecological sustainability in construction, repair and property maintenance, and it also addresses the economic, social and cultural aspects of SD and the problems encountered in community land use.

By summer 2001, authorities and representatives of the construction and property sector are to submit a progress report to the FNCSD, relating to the aims and actions of the programme and the resulting impacts. The programme's effectiveness in reducing environmental loading will be assessed, and consideration will be given to the need for further action and programme modifications.

Environmental Cluster Research

The Environmental Cluster Research Programme is a collaborative project between researchers, companies, public authorities and funding organisations aiming to discover new ways of protecting the environment and natural resources, and then to use this knowledge to develop environmentally-friendly products, production technologies and infrastructure.

¹⁴ <http://www.vyh.fi/eng/environ/sustdev/indicat/talous.htm>

¹⁵ Vountisjärvi, 1998, p.6

The Ministry of the Environment manages the programme, but financial support also comes from the Technology Development Centre, the Academy of Finland and the Ministry of Trade and Industry, amongst others. The programme budget extends to between 90-100 million FIM.

The first phase of the programme, from 1997-1999, aimed at increasing eco-efficiency, promoting environmental entrepreneurship and intensifying co-operation. It considered the potential for eco-efficiency across the Finnish economy, especially in the metal, forestry and food sectors, using materials flows and lifecycle analysis. The second and current phase of the programme, from 2000-2002, was launched with pilot studies into infrastructure for a sustainable society, the information society and sustainable development, and the environmental effects of hormone-like substances. Following evidence of divergence between SD and information society developments, special emphasis is being placed on examining these processes.¹⁶

5.3 Regional-level Research and Practice

PROPOLIS, Helsinki

Background

PROPOLIS represents a direct continuation to SPARTACUS (an earlier EU funded research project) under the Key Action “City of Tomorrow and Cultural Heritage” of the Fifth Framework Programme. Whereas SPARTACUS ran from the beginning of 1996 until the end of 1998, PROPOLIS was launched at the beginning of 2000 for a period of just under three years.

The main tasks within the project are to examine different sustainable urban policies and to develop methodologies for measuring such policies. The scale of funding made available amounts to approximately 10 million Finnish Marks, of which 50% comes through EU co-financing. The project represents a collaboration between the Ministry of the Environment, the Ministry for Transportation and Communication, Helsinki Metropolitan Council, the Uusimaa Regional Environmental Centre, and the Finnish National Road Administration.

In terms of spatial coverage, PROPOLIS focuses principally on the metropolitan area of Helsinki, but it also involves the surrounding rural areas for a radius of 100 kilometres, reflecting the interactions involved in producing a sustainable urban policy. The thematic research focus was

¹⁶ Ministry of the Environment (2000) *Sustainable Development and the Information Society - Towards a Sustainable Network Society*, MoE, Helsinki

influenced by research priorities at EU level and amongst the different Finnish national actors.

Methodological Approach

The project methodology is based on an international comparison of case studies, namely five major cities in different European countries. The research perspective is horizontal, insofar as possible, divided between the social, economic and environmental dimensions of sustainable development.

Data analysis is principally quantitative, from which qualitative conclusions are drawn. This involves measuring sustainability, first by selecting different indicators, and then developing a method to produce values for these indicators, part of which is based on geographic information systems (GIS). The project includes empirical research and interviews based on identified user needs.

Outcome/Assessment

As a tangible outcome, PROPOLIS is expected to produce recommendations, methodologies and specific tools for sustainable urban policies. From the successes identified in the five case study cities, a generalised approach is to be devised for other cities, both for application and for further exploration.

The results from the earlier SPARTACUS programme were widely disseminated. The Federal Highway Administration has used it as an example of notable European research in this field; and DG XII chose the project as one to be displayed through a conference presentation, a leaflet and part of a documentary film. The results from PROPOLIS are intended to feed directly into the policy process in the case study cities. In Finland, the future strategic plans of the Helsinki Metropolitan Council are to be assessed using the PROPOLIS methodology.

Learning Sustainability, University of Lapland

Background

Under the title *Towards a Sustainable Development Structure for Co-operative Actions among Marginal Areas in Europe*, this project is supported by the Recite II Programme of the European Commission.¹⁷ It enables the participating regions from Lapland, the mountains of Trentino (Italy), and Alentejo (Portugal) to work together to combat marginalisation.¹⁸ In each case, the number of inhabitants is constantly decreasing. There is a regional development strategy for Lapland, Lappis

¹⁷ <http://perso.club-internet.fr/icalpe/recite/index.htm>

¹⁸ <http://www.recite.it/index-en.html>

2006, covering the years 2000-2006. All programmes and projects must be compatible with this strategy, which acts as the main “regulation” when it comes to the development of Lapland.

The overall objective is to increase the capacities of the region and partners involved to tackle key challenges for the sustainable development of marginal areas. These would include factors such as the outmigration of younger generations from rural areas, mismanagement and loss of natural and cultural resources, and difficulties for local SMEs to compete on the market. The project work programme has five main areas of activity, as follows:

- Sustainable tourism.
- Quality management.
- Participatory multi-use management of rangelands.
- Cooperation.
- The relationship between cities and rural areas.

The project partners in Lapland comprise the University of Lapland, the Continuing Education Centre and the Arctic Centre (both separate division of the university), the Regional Council of Lapland, the Regional Environment Centre, the Employment and Economic Development Centre for Lapland, the Lapland Rural Advisory Centre, and the Lapland Forestry Centre.

The aim of the project in Lapland is to develop a proposal for a village development strategy, with the intention of slowing down or stopping the migration from Lapland to the south of Finland. The objectives are to develop and improve different kinds of jobs and offer a good quality of life to encourage people to live and work in the region. This thinking is based on villages such as Kurtakko, which has been especially active within tourism. Kurtakko is located beside a ski centre, which co-operates with local actors in broader activities linked to the surrounding nature and the culture of the village.

The total project budget is about 660,000 Euro. The European Commission provides 75% of the funds, and the remainder comes from the University of Lapland and public organisations and municipalities close to the pilot villages. Following a feasibility phase, the project commenced in 1998 and should be finished either by the end of 2001 or in early 2002.

Methodological Approach

In each region, sessions involving local partners are being held to exchange experience and launch demonstration projects related to the five

areas of activity. In Lapland, the decision was taken to concentrate on a few villages that particularly need help and which display an attitude of enthusiasm for development. Seeking to foster an increased capacity for local people to address sustainable development issues, the use of non-academic methods, based on sharing of experience and co-operative learning, are expected to benefit not only those attending the sessions but also the organisers and managers.

The village development projects started with surveys to obtain background material, placing special significance on the attitudes and opinions of the villagers. Bearing in mind that offering a wide range of activities makes it easier to attract tourists, the surveys are oriented to find out whether or not development opportunities exist. The questions being pursued relate to what is typical for the different villages and for the surroundings, history and culture.

Outcome/Assessment

The expected qualitative impacts related to the social and economic development include awareness-raising amongst decision-makers and local activists on key issues for sustainable development; generating pilot projects as reference points; supplying information for entrepreneurs regarding innovation; an improved capacity for integrated management; and the creation of a prototype of the future multipolar centre.

The quantitative output for the whole programme can be categorised as follows:

- 24 associate partners from three regions and countries have gained new experience in regional and interregional co-operation.
- About 400 people, active at the local level, have improved their capacity to contribute to the sustainable development of their region.
- 11 interregional exchange of experience sessions.
- 11 demonstration actions.
- Several ten-minute videocassettes with demonstrative actions.
- Dissemination in mass-media (articles in newspapers, radio programmes).¹⁹

¹⁹ <http://www.cealp.it/english/recite/results.html>

In implementation, the RECITE II programme has been experienced as too broad and too complex, and it may have benefited more from focusing on a few main objectives. The project was also considered to be disadvantaged by having too many partners (both national and international) and by being active on too many levels and villages. The difficulties are increased when partners cannot be chosen, as compatibility amongst the working team can be critical. In this instance, uneven contributions by the partners meant that the international co-ordinator had a greater amount of work maintaining a balance.

In addition, the project manager changed twice, and each new manager took months to become fully engaged. These factors may have resulted in the Finnish side of the project now being behind schedule.

Encouraging the municipalities to co-operate has proved to be a difficult task, and in this sense the projects did not secure much political support. Basically, the municipalities prefer to compete rather than to co-operate. Nevertheless, different villages have met and exchanged information, and new contacts have been established, and partners have emerged with new forms of co-operation.

The timescale was also perceived as inadequate for the task, requiring perhaps an additional year. It takes a long time to change both the circumstances and the mindsets of villagers, and a diplomatic route has to be found. There is a possibility of further collaboration with the Portuguese partners, but such a decision would have to come from the villages.

Planning System for Sustainable Development, Päijät-Häme Regional Council

Background

The idea for a Planning System for Sustainable Development (PSSD) originates from Päijät-Häme Regional Council's physical planning activities, which involve master plans or political and administrative programmes for 10-30 year periods. During the preparation of thematic maps to support this work, it proved difficult to correlate different social, economic and environmental information for the regional structure. The fundamental problem was that the environmental structure maps were not built on the common grid technique, and so they could not be methodically and technically compared or combined with the other maps.

This incompatibility became the subject of an INTERREG IIC programme application. The research question was how to integrate environmental and socio-economic factors using geographic information systems (GIS) in the regional planning process. The main issue was the

use of grid technology. Danish and German partners²⁰ also became involved, indicating that although the origins were local, the problem had local, regional, national and international significance.

At a broad level, the project was essentially technical, seeking neither institutional change nor policy influence. However, at sub-project level, Uusimaa Regional Council used the MEPLAN model to create regional scenarios, attempting to impact on the policy planning process; and the University of Hamburg-Harburg developed a technique to assess whether indicators measure sustainability.

With the exception of Denmark in some respects, the Nordic countries are very well orientated towards the grid technique, which continues to grow in popularity. This project also had an underlying objective of introducing the technology to the Baltic States Region, to promote comparability between maps and data.

Following completion of the work programme, the project activities commenced in April 1999 and finished in January 2001. The budget was 1772 million Euro, with 50% co-financing from the EU.

Methodological Approach

A decision was taken not to base the project on a needs survey, but rather to produce a prototype (model, example or incentive) to stimulate international discussion that would highlight where efforts in this field could be most usefully directed.

The methodology comprised the application of grid technology, using time-series analysis, amongst other techniques. In broader terms, the work was based on the theoretical frame provided by the DPSIR model, which is of Danish origin and commonly used at EU level.²¹

²⁰ Full partners in Finland comprised the South Finland Regional Alliance, the Baltic Region Healthy Cities Office, the Finnish Environment Institute, the Geological Survey of Finland (GTK), and the Technical Research Centre of Finland (VTT). It was administered by the Regional Council of Päijät-Häme (the Lahti region) on behalf of the South Finland Regional Alliance. Major partners in Denmark were the Forest and Landscape Research Institute, the National Environmental Research Institute and the Region of North Jutland. From Germany, the Technical University of Hamburg-Harburg was the only full partner. Reference partners in Finland included the Association of Finland Local and Regional Authorities, the Bothnian Arch project, Connect, the Helsinki University of Technology, MapBSR, and the Uusimaa Regional Environment Centre; and in Germany the Ministry of Urban Development and the Technical University of Berlin.

²¹ DPSIR: D=driving forces (socio-economic), P=pressure, S=state of the environment, I=impacts and R=response (the actual spatial planning).

Thereafter, the methodology was both vertical and horizontal in approach. It was vertical in the sense that the grid technique is flexible and – for all levels – easy to scale, aggregate and summarise. It was horizontal through being based on a user-producer relationship between the regional planning organisations and the national research institutes, reflecting researchers' endeavours to produce suitable geographic information tools to meet planners' requirements.

The inventory phase was mostly quantitative. The chosen form of working was to prepare a prototype of a method and then use it to start a discussion. In this instance, the prototype was known as the common "Planner's TOOLBOX".

Outcome/Assessment

The initial objective of finding a common method to integrate socio-economic and environmental factors on one map was not realised. The difficulty of this task became clear after the first six months, and the project objective was revised towards finding the best possible method of cohesion. As a more manageable task, creating the Planner's TOOLBOX became the principle focus, but it is limited in capability, and it cannot compose maps.

Another element undermining the tentative result may have been the number of partners. With fifteen organisations involved, frequent compromises had to be made. In addition, some of the partners were more involved in indicators than map making, resulting in the partly separate, very practical output from the University of Hamburg-Harburg's indicators generator.

The reality of international co-operation proved more taxing than anticipated. A substantial amount of time was taken up with basic tasks, such as round-table discussions seeking common ground amongst the partners. Differing attitudes were also a hurdle, with the Finish participants initially assuming a different perspective from the German and Danish partners. By the end of the project, communication had considerably improved, but it took perhaps 18 months before this level of understanding was reached.

Despite these practical difficulties, the partners considered the PSSD project to be very successful, bringing additional value to the work of the international spatial planning community. There appears to be no technique corresponding to the Planner's TOOLBOX employing similar ideas and technology that is used in spatial planning international co-operation, and the thematic application of grid technology in this fashion is considered a novel approach.

In addition to a seminar held in March 2001, a method-oriented project report has been published, and the Planner's TOOLBOX is available on the Internet as a user interface, including all project results. A project summary report will be published in June 2001.²² An international follow-up team has been established to develop the work further. The intention is to recruit new partner countries, to widen the factual content of the project and to continue to develop the Planner's TOOLBOX on the basis of the users' needs. With a different lead partner – Päijät-Häme Regional Council is stepping down - this team intends to apply for funding through the INTERREG IIIB programme.

SEA in Regional Development, Häme Regional Environment Centre

Background

Häme Regional Environment Centre is responsible for environmental protection, land use and building, nature conservation, protection of the cultural environment and exploitation and management of water resources in its own region. The centre compiles information on the state and use of the environment at a regional level, as well as promoting environmental awareness.

As part of a national initiative to develop strategic environmental assessment (SEA) for policies, plans and programmes, Häme Regional Environmental Centre carried out evaluation exercises within three *ex ante* appraisals of regional development instruments. The work related to a programme for the EU Objective 2 region of Päijät-Häme (1996), and to plans for the regional council of Häme (1996-1997) and the sub-region of south-west Pirkanmaa (1996-1998).

The specific research question was how to integrate environmental impact assessment into regional development, and in particular to ascertain at which regional level SEA would be most successful. This approach was based on sustainable development, as the medium for combining environmental and welfare considerations, and supported by statements in the Maastricht Treaty and the Fifth Environmental Action Programme. The Interim Review of the Action Programme had observed that integration of environmental concerns needed to be better reflected in the regional development plans and proposals for funding being developed by the Member States.²³ The regional development programme

²² These documents are all available at the Internet address
<http://www.pssdtoolbox.net>

²³ Commission of the European Communities (1994) *Interim Review of Implementation of The European Community Programme of Policy and Action in*

was perceived as especially offering a forum for different opinions, development ideas, and scope to learn from other experts and organisations addressing the three dimensions of sustainable development.

The project started in April 1996, and its last publication was finished in 2001. Its spatial coverage related to the two counties of Päijät-Häme and Kanta-Häme and one sub-region, south west of Pirkamaa. The project was co-financed by EU technical assistance and by the Finnish Ministry of the Environment.

Methodological Approach

The main tasks were to document the planning process, to make it more transparent and to find out when and in which planning phase environmental issues could be raised and integrated.

In the cases of Häme and Päijät-Häme, the study was based on documented material, participants' observations and interviews, whereas in Pirkamaa sub-region, this information was supplemented with questionnaires, media-analysis and interviews with decision-makers. The questionnaires focused on residents and businesses, identifying environmental values, perceptions of significant environmental impact, and preferred forms of participation. The media analysis examined local environmental issues. In all three documents examined, the principles of sustainable development had been defined and included, and so environmental impacts could be assessed within this perspective.

About 30 regional and local workshops and seminars were held for authorities, decision-makers, businesses, NGOs and residents. Most of these events were carried out in south-west Pirkanmaa, where a map exhibition was also organised to raise inhabitants' awareness of the local environmental interactions and risks. Representatives from a wide range of disciplines ensured that information was available on all dimensions of sustainable development.

In south-west Pirkamaa, systematic co-operation between experts and other parties and broad participation were emphasised as essential parts of the impact assessment. Different methods - both traditional and new - were used to integrate SEA into the planning procedures. Two expert groups representing various interests drafted the principles of

relation to the environment and sustainable development "Towards Sustainability", COM (94) 453 final, Commission of the European Communities, Brussels

sustainable development, and non-governmental organisations of the sub-region were subsequently given the opportunity to comment.

Outcome/Assessment

The project concluded that SRD principles were needed in all the case studies as a means of comprehensive assessment. Whereas SRD had been mentioned in some documents, it was never precisely defined in terms of what it would mean for land-use, education or other fields. The research results vary between regions, but these cases were considered to have shown that systematic SEA could be successfully integrated into planning procedures.

In those areas where the participation was broadest, the SEA project was seen as part of a larger context, and the learning and development process has continued. In particular, the decision-makers in the Pirkamaa sub-region were involved in the development of SEA, and they have since demonstrated their further commitment by launching an Agenda 21 process. Furthermore, all municipalities within the sub-region have subsequently made decisions to finance projects that implement the sub-region's Sustainable Development Action Plan.

6. Norway

6.1 Introduction

Within the Norwegian policy context, the national-level initiatives potentially relevant as background factors for SRD are categorised under the following headings: addressing sustainability, regional planning and environment, Local Agenda 21, Regional Agenda 21, and SRD-related research.

With regard to regional-level research and practice, three Norwegian examples are included:

- Regional Agenda 21, Akershus County.
- Sustainable Development Through Planning (SDTP), Greater Bergen Regional Association.
- Regional Agenda 21, Sogn & Fjordane County.

6.2 National-level initiatives

Addressing Sustainability

Over the past 20 years, sustainable development has received various levels of attention at national level in Norway. In the early 1980s, a non-

governmental organisation was established with the name *The Future in Our Hands*. With a work focus complementary to environmental organisations, it concentrated on consumption and lifestyle, seeking to identify positive alternatives. Politicians in the Norwegian Parliament were persuaded of the significance of this activity, and a White Paper was produced on this theme for Norway, although ultimately a comprehensive Nordic coverage was envisaged.

From 1982-1988, the project was supported directly by the Norwegian Parliament with the title *Alternative Future*, receiving funds of up to 8 million NOK at one point. In 1988, following an evaluation, the project became a programme of the Research Council of Norway, essentially to improve quality control.

In the early 1990s, a Norwegian *National Committee on Sustainable Development* was established, attached to the Office of the Prime Minister. Although its objective was to make visible and co-ordinate a Norwegian Strategy for Sustainable Development, it met only a few times during the launch phase, and it appears to have been inactive in recent years.

More recently, in 1996, the theme of sustainability was addressed in a more direct fashion, when the Norwegian Ministry of Environment published a White Paper entitled *Environmental Policy for Sustainable Development: Joint Efforts for the Future*. It highlighted where the SD challenges lay for Norway, primarily in reducing consumption and migration, and it identified three analytical perspectives relating to ecological, generational and welfare dimensions. It also suggested issues for further research, including possible means of reducing contradictions between existing laws and the goal of SD, setting up a national competence centre on sustainable development, and commissioning a 5-year R&D programme related to monitoring biodiversity. However, no concrete steps were taken with regard to SD at national level, and the onus for action was instead directed towards local government.

At the end of 2000, meeting the commitment expressed at the Rio+5 meeting in 1997, the Norwegian Prime Minister announced that work was about to commence on a National Strategy for Sustainable Development. This document is still in preparation. In a related event, a forum for *Sustainability in Practice* is to be held in Stavanger in October 2001 to discuss local and national aspects of SD. Directed at politicians and decision-makers, it is intended to act as a milestone in the Norwegian process of preparing for the Rio+10 conference.

Regional Planning and Environment

In the mid-1960s, when nature conservation became organised in Norway, a formal link was established between regional planning and conservation. Even though conflicts were still to occur between the ministries, especially with regard to the role of agriculture, this initiative represented a significant effort to increase the scope for integration. When the Norwegian Ministry of Environment was set up in 1972, it was debated whether this formal link should be retained. The decision was in favour, and consequently responsibility for land-use planning is still held by the Ministry of Environment.

However, in 1982, County Governors (state representatives at regional level) were given new responsibilities, with the effect that the regional elected representatives were no longer involved with environmental policy. As a consequence, the counties have subsequently focused on Regional Agenda 21s (see below) as an appropriate initiative, both for political and environmental reasons. Accordingly, this development is significant for sustainable development and for the future of the county administrations.

Local Agenda 21

There is no National Agenda 21 programme addressing political questions on the use and distribution of resources in Norway, and this absence means that there has been no official framework setting a context for Local Agenda 21s (LA21s). The White Paper on *Environmental Policy for Sustainable Development* addressed this question, bringing LA21 onto the political agenda for Norway and stating that it should be conducted as an integrated part of the master planning in the municipalities.

Subsequently, in 1998, the Frederikstad conference marked the start of a nationwide effort to achieve SD in the Norwegian local authority sector. The resulting Frederikstad Declaration on Local Community Initiatives for Sustainable Development represents the Ministry of Environment's strategy document for implementing LA21 in Norway. By June 2000, approximately 200 Norwegian local authorities and all 19 regional authorities acceded to the Frederikstad Declaration and resolved to initiate LA21 processes.

In 1999, publication of the results of an internationally comparative study revealed very little LA21 activity in Norway (Lafferty, 1999). In response, a strategic unit for LA21 was established in the Ministry of Environment – with a division relating to business and sustainable development – and a website for LA21 was established over a 3-year period.

Regional Agenda 21

As a recent innovation, the concept of Regional Agenda 21 (RA21) has been introduced into the activities of Norwegian counties. As the designation implies, these documents represent regional versions of LA21 (Aall, 1999, p89), and more than twelve of the county authorities mention RA21 in strategic documents. In most instances this amounts to only a symbolic reference, but in the three administrative areas of Akershus, Nordland and Sogn & Fjordane County, more substantial use has been made of the concept. However, even in these cases, the cutback in economic activity required by their strategic vision is an ambition that has not been met.

From a national perspective, the Norwegian Ministry of Environment regards these documents not as radical departures, but rather as a means for the regions to support on-going LA21 initiatives. Basically, RA21 is at a starting point in Norway the notion has been established, but there has still not been any public debate about whether this path should be followed.

Another relevant factor is that county administrations have generally been reluctant to use their powers, sensitive to avoid difficult confrontations, especially while the future of the county level is under discussion. However, individual politicians have expressed the opinion that counties – precisely to justify their existence – should actively press for implementation of their land-use plans and associate with innovative instruments such as RA21.

SRD-related Research

With regard to research into SRD, three Norwegian institutes are involved in differing aspects of this field. These comprise ProSus, the Norwegian Institute for Urban and Regional Research (NIBR), and the Western Norway Research Institute (WNRI).

ProSus, at the University of Oslo, was set up as a follow-up to the Brundtland Report. Its activities comprise evaluation of Norway's response to the various Rio initiatives, strategic research into the success of sustainability initiatives, and the provision of information, most of which is accessible online.²⁴ Categorised as a “strategic university programme”, funding for ProSus is provided by the Ministry of Research and Education, and is then channelled through the Norwegian Research Council. This commitment was recently renewed for a further six years, covering the period 2000-2005 and allowing the initiation of long-term programmes.

²⁴ The website address of ProSus is <http://www.prosus.uio.no>

The outputs of ProSus include a 12-nation comparative study of LA21, in addition to other extensive LA21 and RA21 involvement. A ProSus sustainable energy project considered long-term economic progress for Norway. It used the same models as Statistics Norway, but introduced scenarios advocated by NGOs, including smaller project scenarios, for example on sustainable agriculture. The results of this project were presented as part of a Green Economy review, and they became a core aspect of the Green Tax Commission report. “Suslink” is a new research programme by the institute comprising a multi-level analysis of policy for sustainable production and consumption. The 4 levels relate to (i) households (ii) local communities (LA21) (iii) central government/regional EU operations, and (iv) SusProd, focusing on individual producers in energy and transportation.

Through the ProSus institute, a direct link exists in Norway to the activities of the European Network on Sustainable Urban and Regional Development Research. ProSus functions as an active national focal point for SRD information (see Appendix 2).

NIBR is a national centre dedicated to applied local and regional research but which also carries out research into areas associated with the management of the environment.²⁵ The Institute works internationally in the fields of the environment and development, and it comprises one of five foundations in *The MI Group (Norwegian Institutes for Environmental Research)*, which provides an interdisciplinary research approach to environmental challenges. NIBR is also responsible for two national centres of competence, one of which focuses on R&D related to environmental impact assessment.

With core funding coming from the Ministry of the Environment, NIBR's research is divided into strategic programmes that are broad-based and which integrate the various disciplines. In this manner, certain aspects of SD are addressed, for example relating to management and planning. The category of “institutions” represents a fourth dimension to SD that NIBR has integrated into its working perspective.

Using SD as a basis for policy emphasis, examples of relevant projects include the integration of EIA into regional planning, set against the overall regional policy goal of maintaining the existing settlement pattern, a search for integrative policy instruments in environmental policy-making and physical planning, and aspects of LA21.

²⁵ The website address of NIBR is <http://www.nibr.no>

The *WNRI* is an independent research institute and non-profit foundation based in Sogndal.²⁶ It contributes to development and innovation in the public and industrial sectors through developing innovative ideas and knowledge provision. Its work is designed to contribute to improved insight, adaptability in terms of reorganisation, and innovation within policy formulation, management and industrial development.

Its research in the field of environment includes transport and environment as an area of priority, developing methodology and performing analyses of energy and environment characteristics for various modes of transport. The concepts of sustainable mobility and sustainable tourism are also considered in relation to challenges for the development of towns and sparsely populated areas. Other research into local environmental policy and LA21 addresses the implications of local and global environment challenges on the conditions for development, and work is in progress on how local authorities can implement political processes and management tools for various types of environmental problems.

In the area of industrial-oriented environment research, WNRI is promoting restructuring processes in small and medium-sized enterprises (SMEs), using the concept of industrial ecology as a framework for environmental challenges facing rural companies. When the idea of sustainable production and consumption was put to the test in Norway, the WNRI carried out a study on this theme, working with ProSus. WNRI researchers have also been directly involved with RA21 initiatives in the Counties of Akershus and Sogn & Fjordane.

6.3 Regional-Level Research and Practice

Regional Agenda 21, Akershus County

Background

In 1996, when Akershus County was due to prepare a statutory environmental plan, a decision was taken to prepare a form of Agenda 21 plan, representing a more appropriate follow-up to the Rio conference. Accordingly, the scope of the document was broadened to include new subjects raised in Agenda 21. This new instrument was designated as a Regional Agenda 21 (RA21), both to make it more distinctive and to acknowledge that the form and degree of participation experienced in Local Agenda 21 could not be expected at this intermediate level.

²⁶ The website address of the WNRI is <http://www.vestforsk.no/>

The RA21 was used as an input to the Akershus County (regional) Plan drafting process. In this subsequent document, there are several references to sustainability with regard to the Akershus region and the guiding principle of sustainable production, and the introductory chapter highlights sustainability as one of the three main issues to be tackled. Elsewhere in the Plan, reference is made to how Agenda 21 should be used as the basis for the Plan's evaluation.

Methodological Approach

To overview the process of preparing the Regional Agenda 21, a Steering Group was formed, comprising seven politicians drawn from each of the political parties. Input was sought from different local authority departments covering planning, land-use, water etc; and an invitation was extended to ProSus, at the University of Oslo, to make a presentation to the Steering Group, profiling Agenda 21. Thereafter, issues under discussion at the meetings of the Steering Group included sustainable production and consumption, sustainable transport and land use, biodiversity and productive agriculture, and water resources. These were principally environmental in orientation, and consequently the main challenge of sustainable development integration was not being addressed.

Local residents were involved through a "debate document" issued at the start of the process, designed to raised challenges and problems. However, even though the general public, local schools and other organisations were informed, and an Internet website was opened, the response was poor and the answers received were not considered very useful. The debate document was also used to generate discussion amongst the County Council politicians, and in this instance it was more successful.

Practice in other countries was considered, and a visit to England in 1997 revealed the process in that location to be more focused on the social aspects of sustainable development. However, by this time, the political Steering Group had set the direction for Akershus, and it was too late in the process to reconsider the basic orientation.

Subsequently, when the County Plan was under preparation, efforts were made to strengthen the link with the RA21. The Western Norway Research Institute was commissioned to advise on how sustainability could be applied as a guiding principle. The most challenging part for the research report was how to address the consequences of global justice, namely the requirements to reduce the level of consumption and involve the community. In approaching this task, distinctions were made between the process and the political elements, from the perspectives of how they

could be achieved and what the consequences would be. The 1996 White Paper had already identified the three intellectual themes of ecological (green), generational and welfare factors. Of these, the welfare element was considered less significant in this context, and so the focus was more on global justice.

The research report recommended that RA21 should be adopted as the name for the new County Plan, but it also emphasised that pursuing this option would require political discussion at a high level. This would be necessary, because it would imply policy changes such as halting road construction, ending support for economic growth in Oslo, and redirecting that support towards growth in less developed regions.

Outcome/Assessment

Within Akershus County, the RA21 document was initiated in the Planning and Environment Division, and it remained within that professional context. Broader inputs were limited, and other council divisions expressed very little active interest. Significantly, Akershus is perceived as an "engine" of Norway', and it would seem a very radical step to reduce the economic activity there. Consequently, outputs focused more on environment than on sustainability.

The engagement with RA21 broadened the authority's understanding of sustainable development as a concept. It brought together dimensions of economics, welfare, democracy and international links, and it sought practical suggestions on how to integrate these considerations in policy-formulation. However, the subsequent impacts on the County Plan proved insubstantial.

In the County Plan Working Group, difficulties were experienced in reconciling the range of different opinions on what the main issues should be, and in practice there was a reluctance to make RA21 a guiding principle for the County Plan. Although the connections between the different SD elements were an improvement on previous plans, the RA21 content was essentially used to form the basis for a separate chapter in the County Plan, and it has not been applied as a fundamental operating principle.

As a statutory plan linked to the Planning Act, there is an obligation to review the Akershus RA21 every four years. Current activity is concentrating on ensuring the RA21 is followed up, and an Action Plan has been prepared. This is an informal document, setting targets for new activity, such as expanding the contact group for the RA21 into a green or sustainability forum, and for an agreement with Oslo municipality on a strategy for climate protection and energy. Work is also in progress to produce indicators for sustainability, but at present the responsibility for

this initiative rests with the Planning and Environment Division, rather than being located more centrally within the authority.

A major hurdle to future progress in Akershus County is that no individual or unit has responsibility for developing a sustainable development perspective. This institutional constraint cannot be easily resolved while uncertainty surrounds the imminent re-organisation of local government, nor while the current preoccupation remains with questions of economics and resource use, both of which combine to make sustainable development a low priority. Nevertheless, the County now participates in the project *Sustainable Local Government – in Practice*, which is being organised by the Western Norway Research Institute.

Sustainable Development Through Planning (SDTP), Greater Bergen Regional Association

Background

A formal association of local authorities has existed in the Greater Bergen area since 1989, when the local mayors formed a new alliance to be known as the Greater Bergen Regional Association (GBRA). The potential of this interaction was enhanced in 1996, with the appointment of a new intermediary seconded from the County Council. However, not all the participating authorities considered the county level of strategic planning to be very effective for this region. Some new form of catalyst was required to deliver the required integration.

Involvement in a TERRA project, part of an EU regional development initiative linking spatial planning with economic development, was perceived as an opportunity to establish a new basis for the local authorities to co-operate. In addition to offering lessons from an international context, it would draw on the principles of sustainability as a common goal. Not all of the local institutions held a strong interest in the project, but it was still developed as a means of introducing greater cohesion to the local authority network.

As this was an EU initiative, the Norwegian partners could not obtain finance from the European Commission. However, the Norwegian Ministry of Local Government and Regional Development encouraged and supported this participation by providing substantial funding. Applications were also made to each of the local authorities for local funding. A dedicated member of staff was appointed from one local authority to work as planning officer in the TERRA project.

Sustainable Development Through Planning (SDTP) was a 2-year project from November 1997 to November 1999, but with most of the work condensed into the 18 months from January 1998.

Methodological Approach

From a general understanding of sustainable development, the partners produced and followed a process that they considered moved the sustainability debate forward towards practical policy formation in spatial development.

A key factor was to facilitate understanding between the different national teams, and to make connections between their various professional remits. The first meeting was used to allow participants to outline their reasons for becoming involved in the project, what they hoped to gain, and where they anticipated difficulties. Emphasis was placed on encouraging individuals to discuss openly the strengths and weaknesses in their national and regional systems, rather than defensively promoting the impression that their administration experienced no difficulties. This meant that when the partners met, they worked in an informal manner within a formal setting. Internet links were also used to assist the on-going discussion, and e-mail exchanges supported a useful debate.

A theoretical model was developed to illustrate a method by which SD could be introduced into the decision-making process. Described as a generic model, transferable both to different localities and different levels of decision-making, it was seen as applicable in both the political and public sphere as well as accessible by experts in sustainability and spatial development. A simplified version of the model appears in the final report,²⁷ where six steps of decision-making are identified:

- Reviewing existing plans, knowledge and values.
- Deciding the vision and scope.
- Determining the preferred strategy.
- Formulation of the plan.
- Implementation of the plan.
- Monitoring the plan.

Employing a cyclical, political and inclusive process, the model suggests that sustainability can be integrated at step 2, entering sustainability goals when deciding on the scope and vision, at step 4, with a sustainability appraisal of draft policies and proposals, and at step 6, monitoring impact with sustainable development indicators

²⁷ Gävleborg, Greater Bergen, Murcia, Satakunta and The Tees Valley (1999) *Sustainable Development Through Planning - Final Report*.

During project implementation, each partner country established an economic forum and produced a baseline study outlining socio-economic and physical characteristics of the regional environment. Each country also produced between five and seven sustainability categories or themes, backed up with sustainability indicators. Linkages were then identified between economic development and spatial planning, followed by a review of organisational structures to ascertain their capacity to implement the SDTP principles.

Outcome/Assessment

The SDTP project has directly influenced the work of the GBRA. After the first year, when the third and fourth stages of the project were achieved, it became apparent that this work could also serve as a plan for the Association. This idea was subsequently developed, culminating in a working plan with a two-year time horizon.

Amongst the international partners, Bergen may have received the greatest benefit from the exercise. The English participants were principally interested in integrating economic development and physical planning, the Swedish partners were hindered by the simultaneous preparation of the Regional Growth Agreements, and the Finnish partners were focused on smaller projects and a broader participation. In comparison, the Bergen initiative concentrated on the practical task of improving existing administration and introducing responsibility for sustainability.

With regard to measurable outcomes, it is still too early to be precise, as it takes a considerable time to change mindsets and overcome institutional inertia. Departmental heads and administrative leaders proved to be the most unwilling to accommodate the new approach, even though some clearly believed this to be the best way forward. At this stage, greatest effort was put into the active promotion of sustainable development, trying to gain influence at a high level, and supporting the political agenda on sustainability.

The group of planners brought together through the project is still active on an informal basis, and this network represents one lasting legacy of the project. In this sense, the SDTP project may be regarded as an investment in the future, when those middle-management staff reach more influential decision-making positions in the hierarchy, and then act in keeping with sustainable development criteria. It is hoped that the project and its successors will educate people over time, working in parallel with the combination of political pressures steering development in a more positive direction.

One follow-up to the SDTP project has already included introducing a regional goal to decrease energy consumption and move towards reliance on more environment-friendly sources. Each local authority worked out its own strategy on how to reduce the use of energy, and the task for the GBRA was to envisage how best to group these authorities for effectiveness, including impacting on private sector behaviour. As a future initiative, the Association is applying for EU/Norwegian Government funding to develop sustainability accounting.

Regional Agenda 21, Sogn & Fjordane County

Background

The County of Sogn and Fjordane has always had an image of being high in quality of life factors, alongside a sparsely populated countryside and a specialism in natural resource management. In comparison with the rest of Norway, farming techniques have a relatively low-technology orientation, and Sogn and Fjordane has the highest percentage of ecological farming in the country, including Norway's only school of farming that is 100 percent ecological. However, quality-of-life identity is becoming increasingly common as a feature in the competition to attract tourism, and this county has been considering how best to move forward and secure a new distinction.

As a consequence, work is proceeding on a new model of Regional Agenda 21, which is evolving as a process of political choice with the scope to develop options in sustainable production, consumption and land use. In addition to professional support within the county administration, this regional context is perceived as one in which RA21 is feasible and makes good sense.

Methodological Approach

A comparatively professional approach has been adopted in Sogn and Fjordane. In practice, the principles of RA21 have been utilised as guidance for production of the County (Master) Plan in 2001, which on this occasion is equivalent to a "total land-use plan". Master Planning in Norway consists of two elements, those of a text-plan, which has a wide-ranging thematic coverage, and a physical land-use plan. At the regional level, most counties have produced text-plans (which are obligatory), but very few have drawn up a land-use plan, seeking to avoid conflicts with the municipalities. At the local level, the opposite situation prevails, as most of the municipalities have prepared land-use plans (which are compulsory for that level), but their text-plans are relatively poorly developed. Sogn and Fjordane has been the first to prepare a total land-use plan, incorporating both dimensions. In terms of legal status, this

document is not binding, but it does have an influence, and the municipalities will have to relate to it.

During the planning process, a “County Plan” website was set up on the Internet. This forum allowed the public and organisations to follow the political discussion and to use the website as an interactive tool, submitting their own comments for publication online, subject to editorial approval. Regular updates to the online information illustrated what each party had achieved or taken on as a new commitment. Earlier attempts at such participation had only limited success, but for this most recent edition of the County Plan, there was a substantial response and constructive input.

As part of the methodological development, two reports were commissioned from the Western Norway Research Institute. The first report basically raised the issue of putting the concept of RA21 onto the agenda; and the second report addressed the question of which themes should be discussed. In the forthcoming revisions to the Plan, the researchers will be making the suggestion that the document should now be re-named as Regional Agenda 21.

Outcome/Assessment

Clearly, this process is at an early stage in Sogn and Fjordane, but the first signs are promising, not least because of the region's strong identification with high quality of life. In this connection, the County is also producing an energy and climate plan, with considerable support for fitting up rivers as hydro-electric power plants, and a clear willingness to consider the perspective of reducing consumption against raising production.

As a mark of distinction, establishing a formal Regional Agenda 21 would be something novel for Sogn and Fjordane, and it would contribute towards a justification of intervention at county level. Even if sustainability questions were to disappear from the political agenda at national level, it would be expected that this approach would still be pursued in Sogn and Fjordane.

7. Sweden

7.1 Introduction

In the Swedish context, a range of activities has relevance for the promotion of SRD. The categories used to describe the national initiatives listed here include: Sustainable Sweden, environmental quality objectives, regional instruments, sustainable development indicators, sustainable

development strategy, environmental exporting, and sustainable technology.

With regard to identifying relevant activity at regional level, the four Swedish examples comprise:

- The Natural Resource Centre, Dalarna.
- Environmental Integration in Regional Growth Agreements Swedish Environmental Protection Agency.
- Regional Programmes Evaluation, National Board of Housing, Building and Planning.
- Green Trade and Industry, Småland County.

7.2 National-level Initiatives

Sustainable Sweden

In Sweden, the practical implementation of SD has gained momentum through a number of related initiatives, especially regarding ecologically sustainable development (ESD). The government has stated that efforts to convert Sweden to ecological sustainability must continue and be accelerated, that Sweden will continue to strive to be in the forefront of ESD, and that it should be a driving force internationally.

Over the past three years, the Swedish Government has reported annually to Parliament on progress made in efforts to achieve ESD. This is based on a programme of action presented in 1997 in the Communication *Environmental Sustainability* (Comm.1997/98:13). The three overall objectives for ESD comprise protection of the environment, the effective utilisation of the earth's resources, and ensuring sustainable supplies.

The various reports describe progress made on strategies and measures, they review the impact of existing measures, and they introduce new measures. Reports are also made on local investment programmes (LIPs), which comprise grants available to local authorities that have adopted an integrated approach to ESD. The aim of the LIPs is to speed up Sweden's transition to a sustainable society by reducing environmental impacts, ensuring more efficient utilisation of energy and other resources, and promoting the sustainable supply of food and other renewable materials. Parliament has allocated SEK 7.2 billion for the period 1998-2003 for LIPs aimed at improving sustainability at local level.

The Ministry of Environment established a new centre in 1999 - the Swedish Institute for Ecological Sustainability – primarily to support

local approaches to sustainability. The institute's main mission is to increase society's understanding of ecological sustainability and to encourage the integration of this approach in society. The primary task is to serve as a bridge between researchers and those who apply these theories within LIPs (for example industry, local government and NGOs).

Environmental Quality Objectives

In developing the perspective of ESD, the Swedish Environmental Code has featured as an important background component. Closely linked to building and planning legislation, the Code defines overall environmental quality objectives that describe the state of the environment (including natural and cultural assets) required for achieving ecologically sustainable development.

In April 1999, fifteen environmental quality objectives were adopted by Parliament, and about 20 local authorities proposed interim targets and action strategies for the adjustment process. A Swedish Government Bill followed in May 2001, in which measurable targets were given specific time horizons – basically to be achieved within one generation – and concrete measures and strategies were forwarded to attain these targets by 2010.

Regional Instruments

Regional Growth Agreements (RGAs) are also subject to ecological assessment. The purpose of these agreements is to improve collaboration between the various bodies involved in growth and employment promotion. The agreements must specify the requirements for adjustment to ecological sustainability, environmental protection and efficient use of the earth's resources, and how these aspects will be integrated into efforts to stimulate growth and job-creation. Several pilot regions have been developing sustainable development integration strategies as a horizontal objective for the RGAs.

Other than RGA assessment, the activity closest to SRD is focused on the EU Structural Funds. Sustainable development evaluations of EU regional programmes have resulted in outcomes that include handbooks for practitioners and cross-sectoral consultations to reconcile divisions between ministries. Sustainable tourism is also being considered in some areas as a means of generating regional economic growth.

Another initiative includes the MARS project, from the Environmental Protection Agency, which sought to improve co-operation and facilitate environmental integration between the national level and the County Administrative Boards (CABs). In addition to a series of workshops, the outcome included suggestions for clarifying the national

environmental objectives and SD policy statements, and the creation of co-ordinating regional environmental councils.

Sustainable Development Indicators

In 2001, the Swedish Ministry of Environment commissioned Statistics Sweden to develop a first set of national indicators to appraise sustainable development in Sweden. The Steering Committee for the project included representatives from the Ministries of Environment, Health and Social Affairs, Industry, Employment and Communication, and Finance, in addition to Statistics Sweden and the Environmental Protection Agency. A project group carried out the day-to-day work, with its members drawn from Statistics Sweden and the Environmental Protection Agency, who interacted with experts and reference groups.

The Sustainable Development Indicators report, which was published in May 2001, is presented as a first attempt at indicators addressing the environment, social factors and economic development, as well as the interaction between these factors. The approach adopted is based on four themes:

- Efficiency.
- Contribution and Equality.
- Adaptability.
- Values and Resources for future generations.

Efficiency is seen as a key factor in a number of contexts for meeting the challenges of SD, and the efficiency indicators focus on resource use and productivity from different perspectives. Indicators on *contribution and equality* encompass the distributional aspects of development, in terms of sharing burdens and benefits. Many of these indicators deal with conventional economic and social welfare issues, but additional data focus on the transition to more sustainable production and consumption patterns.

Adaptability interacts with the efficiency and contribution/equality themes, and it is linked to factors such as societal change, new technologies, economic recession, and engagement in Agenda 21. These indicators represent different views on the current composition of investments with regard to their scope to attain greater flexibility and efficiency in future. Indicators associated with passing on *values and resources to future generations* include laws, taxes, grants and even individual choices, as well as the scope for “manoeuvrability”, such as seeking to avoid debts that tie up or deplete resources that could be put to better use in future.

The present set of Swedish SD indicators consists of 30 existing measures, mostly available in time-series form. The selection criteria for these indicators were that they should be informative, relevant in terms of sustainability, and the data should be readily available in official statistical datasets, preferably as annual data covering a long time period. There is presently no weighting scheme or specific dependencies among the indicator variables, but linkages among certain indicators are illustrated by cross-referencing. More explicit analyses of inter-dependencies may feature in future reports, as well as potential schemes for weighting

Sustainable Development Strategy

A Swedish National Strategy for Sustainable Development is currently under preparation, and this will encompass ecological, economic and social (including cultural) aspects of SD. The work involved in drafting the Strategy has benefited from experience gained with the ecological sustainability programme of 1997, which is regarded as the starting point towards sustainable development. However, actions have broadened over the past few years to include financial, social, employment, educational and cultural measures, amongst others. Moreover, the work on ecological sustainability remains closely linked to measures to promote growth, thus strengthening the economy and employment.

Measures already in place will act as building blocks for a comprehensive Sustainable Development Strategy. For example, strategic interventions have led to changes in legislation and policies, the financing of SD activities and research, and extended communication and dialogue. Measurable targets are especially important here, and in this context the 15 Swedish national environmental quality objectives have elaborated the environmental dimension of SD. Their subsequent integration into the work on sustainability indicators has contributed to discussions and on-going efforts towards the SD strategy.

The aim is to present a preliminary discussion document of the Sustainable Development Strategy by autumn 2001, and this draft is intended to serve as a basis for consultations in late autumn. These consultations are designed to accommodate grass-roots opinion and will involve NGOs, municipalities, business enterprises, media, youth organisation and other societal contributions. The Strategy should be finalised in spring 2002, and then presented to the World Summit in September 2002.

Sustainable Technology

The Swedish Government established the Delegation for Sustainable Technology (DST) in September 1996, and its work began in spring 1997. The Delegation is an independent authority reporting to the Ministry of Industry. Its task is to stimulate the commercialisation, faster market introduction and increased sale of products that have lower negative effects on the environment, while also offering opportunities for industrial development and job creation.²⁸

Sustainable technology is defined as minimising the use of resources and/or energy consumption; producing less waste; using sustainable substances and materials in processes and products; and incorporating improved environmental properties (e.g. long life, easy maintenance, low energy consumption and recyclability). The objective of sustainable technology is to reduce the overall risk of environmental effects.

The Delegation concentrates on four areas. In the *transportation* sector, the environmental effects present a significant obstacle to attaining several of the Swedish national environmental goals. With the progress towards a sustainable society, awareness of the environmental impact of transport has increased, and there is now greater demand for environmentally adapted vehicles and transportation systems. In the *construction and housing* sector, the DST seeks to promote ecologically acceptable materials, building technology, operations and maintenance. Discussions about producer responsibility are ongoing in Sweden, and the construction sector has made a voluntary agreement on environmental adaptation.

Within *food and agriculture*, production and consumption uses energy, causing emissions of greenhouse gases and leaking substances that add to eutrophication and acidification. Attention is increasingly being directed to the link between food and environmental impact, with pressure from consumers widening the market for sustainable technology. Concerning the *ecological remediation of soil*, Sweden and other European countries have large quantities of soil contaminated by industrial activities or leaking landfills. With the risk that toxic and environmentally hazardous substances will leak into the air or water, this particular threat has resulted in a large demand for cheap soil remediation technology.

The Delegation also disseminates information about sustainable technology, brings together different actors in the field, and utilises

²⁸ miljoteknik.nutek.se/engelska/english_summary.html

technology procurement as an important instrument. It does not allocate funding for research and development.

Environmental Exporting

In January 1998, the Swedish Government authorised a special investigation into the opportunities and threats associated with an increase in environmental exporting. In addition to suggesting a strategy and an action programme, the investigation focused on how SMEs could improve the export of their environmental services and products. A range of individual experts from different organisations and companies, as well as a reference group comprising representatives from trade and industry, assisted the appointed 'special investigator' in this task.

In September 1998, the report *Sustainable Sweden – a SUCCESS Story* was published. It identified 56 different actors working with environmentally driven business development, a result that compared favourably with a similar survey ten years earlier. About one third of those identified comprised municipal initiatives, one third originated from colleges and universities, and the rest represented different associations and institutions. However, only nine out of the total expected to be involved on a long-term basis in activities that would increase environmental exports. The report concluded that there remained a large unexploited potential in this field.

7.3 Regional-level Research and Practice

Natural Resource Centre, Dalarna

Background

The Dalarna Natural Resource Centre (NRC) was established in 1995, its overall purpose being to support sustainable development, but with the specific objective of assisting the transition to an ecologically-based economy. Accordingly, emphasis was to be placed on the development of sustainable businesses, with a focus on small and medium-sized companies, in addition to informing and involving local authorities and the community. The creation of the NRC represented a top-level decision, and its board included the mayors from Borlänge and Falun, as well as a representative from the county council.

In 1996, at the time of preparing a formal bid for EU funding support, the existing mission was re-packaged, introducing additional perspectives such as partnership that the NRC could easily access. Each of the participant authorities contributed 3 million SEK, and the County Administrative Board matched this amount with a further 9 million SEK.

The first phase of this initiative was operational from July 1997 to December 2000. During this time, the NRC staff resources amounted to a maximum of 10 full-time equivalents.

Methodological Approach

Beyond the broad aim of encouraging society to support ecologically-based development in the region, the initial objectives for the project were very imprecise, and they had to be refined as the work progressed. The four project objectives were realised through various methods, as follows.

- Support companies' environmental work

A programme of network-building amongst companies was set in motion, identifying environmental co-ordinators in a wide range of enterprises. These individuals were subsequently involved in determining the first year's agenda, and the network membership has since grown to approximately 300 enterprises. Other supporting activities included providing information on the content and implications of new environmental legislation, responding to companies' enquiries, initiating a form of "companies being partnered", and developing a technique known as the "environmental key", comprising indicators on energy and other savings. To some extent, this activity prepared the market for environmental consultancy companies, building on the identified need for new or modified products.

- Increase people's knowledge and participation

This objective was tackled principally by identifying local schoolteachers willing to share ideas and experiences on the themes of environment and ecology. The network that developed now extends to 200 members, and it seeks to integrate ecological thinking into educational practice, using methods such as small seminars, study tours and exchanging experience between schools. As a result of this work, a quarter of the schools awarded the national "environmental certificate" come from Dalarna, a county with just 3 per cent of the population of Sweden. Other activities included supporting study circles (but with a new emphasis on using internet websites), initiating an independent environmental network between sports clubs, environmental Sundays (invited speakers and open seminars), and environmental families.

- Integrate research and society

For this theme, the municipalities were asked to develop practical ideas, but the resulting sub-projects were focused mostly on development, and there was only a small research component. A series of pilot projects was launched in the hope that they could be further developed by other sources. Areas of activity included waste management technology, systems analysis of waste handling, biogas, environmental procurement and phosphorous extraction. During implementation, links to the University College of Dalarna were supported with a view to building links between research and practice, but for various reasons it proved difficult to exploit this opportunity fully.

- Develop Vassbo as a location for business, research and education

Over the duration of the project, 18 small companies and organisations were established at the Vassbo estate in fulfilment of this objective. Environmental objectives were integrated into the physical planning and refurbishment of the estate, and the SMEs were given access to the NRC facilities. However, with regard to the fields of activity, their selection was more appropriate for Vassbo than for the NRC orientation, even though the companies had provided sustainability profiles. In addition, local events overtook this objective to some extent, as job gains and losses in Borlänge and Falun respectively undermined the regional significance of Vassbo.

A monitoring committee was created for the NRC project, and this signalled the transition to more effective partnership working. The expertise of the business sector participation on the committee proved very valuable in speeding the process. This group considered indicators, for example relating to how many companies had been assisted, how much work had been carried out, the hours of education delivered, and views on the content of courses. It also attempted to estimate investments resulting from projects and the impact on company activity and performance.

Outcome/Assessment

With regard to external recognition, an evaluation by an independent consultant judged the project to have been successful in achieving its objectives, even though there had been a number of conflicts with bureaucracy, as civil servants and executives remained sceptical about NRC activity. The NRC was cited in a very positive manner in the regional strategic document for the future of Dalarna up to 2007. Produced by the County Council and County Administrative Board, the

document's objective of ecological sustainability is considered to have directly influenced the Regional Growth Agreement.

In terms of new activities, the NRC programme now includes elements such as the environmental key, eco-design, and a project for three municipalities to create a baseline scorecard system for evaluation and monitoring. Now companies will be able to select the entry point appropriate to their phase of development. There are also plans to target civil servants for training in ecologically sustainable development, and the NRC has become a participant in regional-level project activity in the Czech Republic. In addition, working with the local Almi – part of a national network of business support – progress has been made in setting up environmental management systems in companies.

The Regional Growth Agreement is now perceived as a potential future source of funds for the NRC. Under the theme of quality and environment in Dalarna, an application for 9.5 million SEK has recently been approved to cover the next 3-year period of this project.

Environmental Integration in Regional Growth Agreements, Swedish Environmental Protection Agency

Background

The Ministry of Industry initiated the Regional Growth Agreements (RGAs) in 1997. These RGAs did not represent new money, but rather a new grouping of existing funds from employment, agriculture and economic development sources, amongst others. They comprise 3-year financial agreements on regional priorities and spending, which should act both as a steering mechanism and a means of improving regional co-ordination.

The RGAs cover the whole of the country, based on the 21 County Administrative Board boundaries. Overall, between 2,000 and 3,000 people are involved in RGA partnerships, each of which may support a dialogue between as many as 150 individuals.

In regulatory terms, the Ministry of Industry specifies how the money within the RGAs is allocated with regard to environment, ecology or sustainable development activities. However, recent attempts to integrate environment into the Agreements have been largely an initiative of the Swedish Environmental Protection Agency, as part of its broader effort on SD, which for example also encompasses planning instruments.

A co-ordinating group for the environmental aspects of the RGAs has been established, and the five participating authorities comprise the Environmental Protection Agency, the Planning and Building Agency,

the Cultural Heritage Agency, NUTEK and the Rural Development Agency.

Political support for this activity has included the Prime Ministerial emphasis on the sustainable Sweden initiative, the green welfare state and the green development concept, as well as communication from the Ministry of Industry supporting the EPA's key role in the process of building in sustainable development. In this sense, the integration activity originated from a top-down initiative, with a political task to fulfil, but its realisation has involved individuals at different levels in the hierarchy.

Methodological Approach

Using the Swedish Environmental Code as a background, the purpose of the integration activity is to contribute towards achieving sustainable ecological development. In this context, the Environmental Protection Agency focuses on implementing the national environmental objectives, using and encouraging strategic environmental assessment approaches in the design of RGAs, and producing evaluative reports on the effectiveness of environmental integration within RGAs.

Whereas the overall task relates to the whole of Sweden, the methodology has concentrated on pilot regions now approved for developing an integration strategy that incorporates environment and sustainable development as horizontal objectives, and which would be applicable to all RGAs.

In May 1999, as part of a group at the Ministry of Environment, staff of the SD unit at the Environmental Protection Agency worked on appraising each of the RGAs. In November 1999, a second round of appraisals was undertaken, with a greater part of the responsibility then assumed by the EPA. Comments on the drafts highlighted the absence of environmental input and the omission even to invite environmental experts to participate in the formulation of the RGAs. The formal EPA criticisms related to the need to involve environmental specialists, using and/or expanding the environmental indicators, and on the prioritisation of activities, amongst other themes. These concerns were subsequently conveyed to the RGA partnerships through conferences and workshops as part of a larger initiative to stimulate environmental consciousness.

In February 2000, the Ministry of Industry published a report containing its assessment of the RGAs. The EPA considers that it had an influence on the content of this report, which included the main environmental criticisms.

Developing appropriate evaluation techniques formed the next stage. Considerable progress has been made in identifying sustainable development indicators for all levels, improving and adding to previous

inventories. In this work, the EPA contribution relates to ecological and environmental indicators only. Consideration has also been given to how evaluations should be structured, who should be responsible for this work, and the optimal frequency of evaluation. Discussion on this aspect is still on-going.

Outcome/Assessment

In procedural terms, inter-departmental communication has improved through the work on integration. Initially, all contact between the EPA and the Ministry of Industry was at Ministerial level, through the Ministry of Environment. At this stage, there was little in-depth understanding outside the EPA of the tasks concerning environmental integration. However, the RGA interaction has impacted positively on environmental awareness, and the EPA now has direct contact with the Ministry of Industry, through both formal and informal links.

In terms of wider dissemination, the environmental message from the EPA appears to have made more limited progress. The content of environmental presentations to the partnerships did not always work though to the drafting process for the RGAs, and when the final versions of the RGAs were assessed, it was observed that the material on environment and sustainable development had often been relegated to appendices.

The phasing of evaluation for RGAs is still undecided. The most recent evaluation took place in October 2000,²⁹ and the next one is scheduled for October 2002, to coincide with the Structural Funds evaluation. As part of the evolving evaluation methodology, the Ministry of Industry has distributed a form with key questions, most of which have an economic orientation. At least three questions focus on ecological criteria, following input from the EPA.

Regional Programmes Evaluation, National Board of Housing, Building and Planning

Background

In 1995, the National Board of Housing, Building and Planning was asked by the Swedish Government to perform evaluative tasks with regard to regional development instruments. The first of these related to the EU Structural Funds programmes in Sweden, and the objective was specifically to evaluate both the programming phase and the individual programmes for environmental integration and sustainable development. This related to Single Programming Documents (SPDs) for the 1995-

²⁹ Rapport on tillväxtavtalen - Första året, Ds 2001:15

1999 period, encompassing Objectives 2, 5b and 6, and the task was carried out in partnership with the Environmental Protection Agency.³⁰

A second mandate was to appraise the Swedish Regional Growth Agreements. In view of the lower level of funding available for this task, priority was given to the Structural Funds assessment.

Subsequently, the Board was also asked to review Structural Funds SPDs for the new programming period commencing in 2000, this time focusing on Objectives 1 and 2.³¹ With these two sets of evaluations, the results were considered to approximate to a time-series analysis.

Methodological Approach

For guidance on method, EU publications were reviewed first. However, these handbooks proved only to be a starting point, and the suggested techniques had to be modified to suit the Swedish context.

Against the task of checking for effective integration of environment and sustainable development, the 1995-1999 programmes were assessed as having a very poor level of integration. The reason advanced for this outcome was generally time pressure, as the schedule for producing the first EU regional programmes allowed very little consultation and opportunity for redrafting. Interreg programmes were accredited as having a higher degree of integration, especially the Sweden-Norway ones, and it is probable that one reason for this was Norway's better environmental preparation for EU membership, as well as the earlier focusing on flows of natural resource usage.

A Projects Analysis was also carried out to make the evaluation more comprehensive. However, the examination of about 100 Structural Funds projects discovered even lower levels of integration, and in some instances there was no material relating to environmental impact or context. This result was attributed to an absence of formal requests or encouragement to consider environment in project design and the preparation of applications.

Sectoralisation within the Swedish public administration was cited as another explanation of the lack of evident integration, with civil servants from planning and the environment also unfamiliar with

³⁰ For the 1995-1999 programming period, Objective 2 was to support the reconversion of regions affected by industrial decline, Objective 5b was to strengthen and develop rural areas, and Objective 6 was to support the development of regions with a very low population density.

³¹ For the programming period 2000-2006, Objective 1 focuses on regions whose development is considered to be lagging behind, and Objective relates to industrial, rural, urban and fisheries areas undergoing economic and social conversion.

Structural Funds instruments and procedures. Communication between Ministries appeared to be less effective than between the various government agencies already collaborating on aspects of the environmental sector. The Housing, Building and Planning Board, the Environmental Protection Agency, NUTEK, the Rural Development Board, and the National Heritage Board meet five times annually to follow up questions relating to economic development and environment.

Outcome/Assessment

Publications from the National Board of Housing, Building and Planning related to this work included two booklets in 1998 and 2000. The first presented the results, with examples of best practice, and the second offered suggestions on possible means of improving existing practice.

In regions with the more successful records in integration, full-scale trials are taking place with an altered division of responsibilities concerning regional development. This involves new regional authorities, some of which are indirectly elected and some directly elected by the public. One of the most successful is in Gotland (directly elected), where the municipality has the responsibility of being the new regional authority for the trial period. However, as an island of only 58,000 inhabitants and with only one municipality, Gotland represents a special case, and accordingly the scope to generalise Gotland's successful work to other regions is very limited.

The new Swedish Structural Funds programmes for Objectives 1 and 2 have been more effective in building in integration, and certain Regional Growth Agreements have also improved environmental integration relative to the corresponding Structural Funds programmes, particularly those for Dalarna and Blekinge.

As there is still a need for more guidance activity, the Housing, Building and Planning Board and the other co-operating central boards have been conducting a programme of visits to county administrations, holding trans-sectoral meetings with different experts and encouraging greater co-operation. They have also furthered knowledge dissemination, providing examples of good practice to the counties and other organisations.

Green Trade and Industry, Småland

Background

In September 1998, the report *Sustainable Sweden – a SUCCESS Story* was published. According to this document, the market for environmentally driven products had expanded substantially over the preceding years, a consequence of growing consumer demand and increases in

environmental regulation internationally, but Swedish trade and industry had not fully exploited the potential to expand its export market share in this field. In Småland, this was immediately recognised as an opportunity both to “create growth and to improve the environment”.³²

Another background factor was the high environmental awareness of trade and industry in Västervik. Local companies already actively participated in Agenda 21 work, some of them held a leading expertise in environmental technology, and an ecological breakfast club is organised for enterprises with environmental interests, including monthly meetings and a forum for exchanging ideas and information. Several Västervik companies were among the first in Sweden to be environmentally certified, and there was already a number of corporate environmental networks. These include the “Biomass Energy Group” and *Miljöresurs Linné*, the latter representing a combination of actors from the local and regional arena and considered to be one of the leading forces for environmental development in the Småland region.

The project “Green Trade and Industry” was launched jointly by Småland County, Västervik Municipality and Miljöresurs Linné. The purpose of the project is to strengthen the competitiveness of trade and industry in Småland in environmentally related markets and to increase turnover in this sector through improved marketing. The means of achieving this transformation includes stimulating co-operation and development projects between companies, groups of companies and other actors that can benefit from environmental industry development. The project is administered by Miljöresurs Linné with support from savings-bank foundations, the Swedish Delegation for Sustainable Technology, the County Administrative Boards of Jönköping and Kronoberg, and most of the municipalities in Småland.

The project commenced in 2000, has a two-year timescale, and has funding of approximately 3,3 million SEK.

Methodological Approach

At first, the spatial coverage was to extend only to the municipality of Västervik, but this was increased to encompass the whole Västernorrland region, namely the four municipalities of Västervik, Alvesta, Tingsryd and Uppvidlinge. Thereafter, the project has been divided into three stages, as follows.³³

³² AB Miljöresurs Carl von Linné (2000), p. 1

³³ AB Miljöresurs Carl von Linné (2000), p. 1-2 and www.vaxjo.se/agenda21/omraden/miljoresurs.html

- Mapping/analysis of environmentally driven companies in Småland.

The initial activity comprised mapping existing trade and industry from an environmental perspective. This first step was designed to identify relevant companies, estimate which ones have the potential to evolve as environmentally focused companies, and consider what advantages Småland might have over other regions in the environmental sector. The objective is to define those lines of business with greatest growth potential in environmental markets, and decide which investments and initiatives are needed to support these companies. This mapping exercise was published as a report entitled “Sustainable Trade and Industry in the Värend Region”³⁴, and this formed an input into the Regional Growth Agreement in the County of Kronoberg.

- Building networks and supporting co-operation for “winning lines of business”.

One of the most important tasks of the project is to stimulate contacts and build networks between existing and potential co-operation partners. This will be done through company visits, meetings and seminars with companies that work in promising areas. From this activity, a number of co-operation and development projects should emerge on the themes of business development, product development, marketing of environmental products, skills development and potential exports of bio-energy, sustainable buildings, wood processing, environment-related tourism, ecological food from Småland and environmental engineering.³⁵

- Marketing the region as a provider of environmental solutions.

As well as Miljöresurs Linné advertising the region's good practice, technical demonstrations will be organised for foreign delegations, and a database of the region's environmental companies is to be established. An environmental website for Småland will illustrate the location of different products and technical services, linked to individual company descriptions. Ultimately, working in co-operation with the

³⁴ Hållbart näringsliv i Värendsregionen

³⁵ AB Miljöresurs Carl von Linné (2000), p. 2 and www.vaxjo.se/agenda21/omraden/miljoresurs.html

Sustainable Sweden initiative in Kalmar, the objective is to set up a regional environmental export centre for Southwest Sweden.³⁶

Outcome/Assessment

The mapping process is now complete, and about 700 companies have registered. Of these companies, a small number will be selected for closer co-operation, initially conducted through interviews, with the focus on identifying strengths for further development.

One tangible outcome of the first stage has been the formation of an exporting project among the most motivated companies. One of the involved companies was already active in exporting, but the others had previously always focused on the domestic market.

Among the companies identified, a considerable number are involved in ecological agriculture, exceeding the national average at about 15% of the total. Given this high representation, new types of co-operation may be initiated for ecological agriculture and provisions. Others areas for possible exploration include bio-energy and energy efficient products, wood processing, environmental techniques, water purification and eco-tourism.

A next step will be to work with smaller companies, to form and support alliances and clusters, because it is difficult for SMEs to succeed on the export market alone. There is also a possibility of extending the coverage towards the County of Blekinge, in addition to the intention to establish a Southwest Sweden regional environmental export centre. A qualitative evaluation of the project will be conducted at a later date

8. Comparative analysis

8.1 Introduction

From the review of national policy contexts, it is evident that all of the countries surveyed have now launched a host of activities related to the definition and implementation of sustainable development. Several years ago, Finland was the only Nordic country pressing ahead with such initiatives and engaging a wide-ranging involvement, and this earlier start is reflected in the current proliferation of Finnish sectoral SD strategies. In comparison, each of the other three countries has only recently initiated new instruments and consultations, largely in response to the need to present evidence of measurable progress to the forthcoming UN World Summit on Sustainable Development. Nevertheless, in spite of a

³⁶ AB Miljöresurs Carl von Linné (2000), p. 2 and www.vaxjo.se/agenda21/omraden/miljoresurs.html

differentiated start, the Nordic countries should within the next year achieve a degree of uniformity in their provision of fundamental instruments for SD realisation.

With regard to the encouragement of SRD from national level, none of the countries has provided definitions or guidance specific to this activity. Instead, exploration of questions of SRD are left to individual regional initiative, and rather than developing a body of literature related to SRD, documentation relevant for this concept is to be found in outputs from selected regional projects. Norway may seem to be an exception to this trend, through the involvement of research institutions in the development of Regional Agenda 21, but this reflects county activity rather than central government direction.

Concentrating on the regional level, the purpose of this chapter is to present comparative analyses of the 14 regional projects documented in the previous country chapters. For the four criteria of objectives, activities, impact and contribution to SRD, each analysis is divided between a country focus and a thematic perspective (see Tables 6 - 9).

8.2 Objectives

Country Focus

In *Denmark*, the three projects approached elements of SD from different sectoral orientations comprising Agenda 21, spatial planning and tourism. Accordingly, the objectives were to promote a range of SD activities using Agenda 21 as the umbrella initiative, to use SEA to appraise levels of environmental integration in regional development plans, and to develop a labelling scheme that would encourage tourist destinations to adopt a sustainable approach to project management. These objectives were all very practical in orientation, and there was some overlap, for example between Destination 21 and the work in Storstrøms County, but the initiatives were otherwise very different in character.

In *Finland*, the projects had the objectives of developing methodologies to measure sustainable urban policies, investigating means of integrating environmental and socio-economic factors into the regional planning process, increasing regional capacity to deal with challenges posed by SD, and investigating how EIA and SEA could best be integrated into regional planning practice. In contrast to the Danish objectives, the orientation in Finland was more research-oriented, developing methodologies, and concerned to facilitate public participation, allowing individuals and institutions to work both independently and together to formulate a regional response to SD. A noteworthy aspect was the focus on regional planning as the main instrument for taking these questions forward.

In *Norway*, planning also featured strongly as the base for SD objectives. Regarding the Regional Agenda 21s, the objective in Akershus was to broaden the scope of an environmental plan, and in Sogn & Fjordane to develop a new model of RA21 by merging land-use plans, so that it would address the SD themes of sustainable production, consumption and land-use. In the Bergen project, there was again a direct relationship to planning, this time with the objective of bringing together a number of local authorities and effecting greater cohesion based on sustainability principles.

In *Sweden*, two of the four projects focused on regional policy instruments, with the objectives firstly to evaluate performance in terms of environmental and SD integration in the Structural Funds, and secondly in a practical ambition to secure environmental sustainability in evolving regional growth agreements. The other two projects had the objective of developing opportunities in the environmental sector, and they had similar overall visions. However, their ambitions differed in that Småland County was driven mostly by pursuit of a competitive regional economy, whereas the NRC was more concerned with effecting a transition to an ecologically-based economy.

Thematic Perspective

Viewing the projects on a cross-national basis, several themes can be identified as a means of categorising the types of objectives being pursued. These are presented in Table 10, and in the analysis that follows, the main focus of each project is represented.³⁷

³⁷ It is recognised that some projects will contribute to more than one theme in each category of objectives, activities, impacts and contributions to SRD. However, for the purposes of this level of analysis and with regard to the small sample size, only the major characteristic of each project is recorded.

Table 10: Typology of Project Objectives

- Regional planning
- Regional development instruments
- Regional Agenda 21
- Greening of industry
- Tourism and
- Capacity building

For objectives aimed at *regional planning*, examples occurred in Denmark, Finland, and Norway. As three out of these five cases were in Finland, this again illustrates the greater emphasis placed on planning in that country as the main driver or means of realising sustainable development. The objectives pertaining to regional planning comprised the application of SEA, the development of planning systems that secured sustainable development, and developing a methodology to measure sustainable planning policies.

With regard to objectives aimed at *regional development instruments*, two examples were found in Sweden. These related to evaluating performance in terms of environmental and SD integration, and secondly in the ambition to secure environmental sustainability in the regional growth agreements.

For *Regional Agenda 21*, examples citing this terminology were found only in Norway, at Akershus and Sogn & Fjordane. However, the range of activities at Storstrøms County in Denmark under the banner of Local Agenda 21 essentially held the same aspirations but employed a different approach to realising the objectives.

Under the category of the *greening of industry*, the two examples came only from Sweden, developing the economic performance of the environmental sector and supporting SMEs making the transfer to more ecologically-based management.

Only one operational example of *tourism* was identified, based in Denmark, where the Destination 21 initiative has launched a labelling scheme to encourage sustainable tourism.

Lastly, for *capacity building*, the only example came from Finland, where the major task in Lapland was to increase the region's capacity to deal with SD challenges.

8.3 Activities

Country Focus

In *Denmark*, the differentiated character of the projects meant that their realisation was achieved through a wide range of activities. Destination 21 has worked over several years to build up the network, gaining recognition for the three-phase process, while constructing a substantial set of inter-related goals, objectives and indicators. Considerable time was also spent persuading local authorities of the benefits of participation, and assisting the front runners to reach the qualification phase.

In *Strostrøms County*, an extensive amount of activity was generated in a wide range of fields. Its long history – extending over almost ten years - is marked out by a number of milestones such as the Green Region project, the Charter for Sustainable Development, and the Local Agenda 21 Action Plan. This activity has culminated with the proposal to incorporate SD goals into the county (regional) development plan. A substantial momentum has built up, involving local authorities, economists, businesses, farmers, and now regional planners.

The SEA project at the Greater Copenhagen Authority has only just commenced, and the evaluation will represent a pilot phase focused on plans already produced by local authorities. Accordingly, the interaction will be very much on an inter-institutional basis.

In *Finland*, the common activities encompass international comparative perspectives and public participation. In the cross-national projects, there is an evident drive to learn from comparative research activity, and to benefit from international co-operation and discussion. In two instances – Propolis and PSSD – this has included a technical specialism drawing on GIS techniques as a means of assisting comparison. Extensions of this international activity are already in view, to take the results further through follow-up projects and practical applications. In comparison, the public involvement at Häme was a two-way process, informing and seeking information, and conducting workshops, seminars and an exhibition. In Lapland, in addition to preparing village strategies and pilot projects, the activity concerned local training for individuals through workshops.

In *Norway*, the political dimension was larger with the focus on Regional Agenda 21 by the two counties of Akershus and Sogn & Fjordane. In these cases, the activities comprised not only the preparation of reports and supporting materials, but also internal political discussion to agree and approve each progressive stage. In both cases, the activity was targeted at influencing or even subsuming the county or regional

plan, and in both instances the Western Norway Research Institute was an important catalyst in the process. In the Bergen project, which was the only international example from Norway, the political dimension was present through the interaction of the local authorities as members of the regional association. In addition, the various meetings developed baseline studies, sustainability indicators and appraised the capacity of the existing institutions to further sustainable development.

In *Sweden*, the examples from the Environmental Protection Agency and the National Board of Housing, Building and Planning comprised evaluation of regional agreements, programmes, and associated projects, meaning that document analysis was the primary activity, followed by interaction with public authorities and regional partnerships. Support was also given to pilot regions in the development of integration strategies and evolving a new form of managing regional development responsibilities. In the other two examples, from Dalarna and Småland, there was a much greater interaction with companies, especially in building networks, but also through disseminating knowledge, brokering alliances between companies, directing pilot projects, building new regional strengths or promoting the region on the basis of existing strengths.

Thematic Perspective

Assessing these activities by theme, four broad categories are discernible in the efforts to realise project objectives, as in Table 11.

Table 11: Typology of Project Activities

- | |
|--|
| <ul style="list-style-type: none"> • Cross-national, collaborative research • Procedural development • Network creation • New policy instruments |
|--|

The *cross-national collaborative research* activity relates mostly to projects in Finland, where three of the four projects took on a comparative perspective, those based in Helsinki, Lapland and Päijät-Häme Regional Council. Only one other project took an international view, in Bergen, where the GBRA collaborated with several other countries on Sustainable Development Through Planning.

In contrast, examples of *procedural development* activity were found across all four countries of Denmark, Finland, Norway and Sweden. The five projects in this group can be divided into one-off and repeat procedures. The category of one-off refers to appraisals that set up a new system or draw attention to strengths or weaknesses to be addressed, and practice is changed as a result. For example, this would apply to the Bergen and Swedish NBHBP evaluations, which introduced new thinking to existing procedures. In comparison, the repeat category applies to activities such as the evaluations in the Greater Copenhagen Authority, the Häme Regional Environment Centre, and the Swedish Environmental Protection Agency. In these instances, it is expected that the evaluative activity will be repeated at regular intervals, to monitor and improve the process outcomes.

The examples of *network creation* were found in Sweden, namely the Dalarna NRC project and the Småland Green Trade and Industry initiative. In both cases, this activity related to industrial concerns, especially the drive to support SMEs to grow or convert to environmental/ecological principles in day-to-day practices. However, Dalarna also launched other forms of networks, involving professional teachers and sports clubs.

Activities related to the creation of *new policy instruments* occurred in Denmark and Norway. In Denmark, Destination 21 has created a completely new and very comprehensive policy instrument for the labelling of tourism destinations; whereas Storstrøm County's initiatives encompassed a series of innovative policy measures such as the Green Region project, the Charter for Sustainable Development, and concerted efforts over time to incorporate sustainable development goals into successive regional plans. In Norway, this category relates to the two Regional Agenda 21 initiatives, which represented completely new departures for both counties that supported this work.

8.4 Impacts

Country Focus

In *Denmark*, the projects displayed different levels of impacts. Storstrøms County is an example of multi-level impacts, with very high outputs, building up momentum over the years from creating a green business network to integrating sustainable development into council programmes and policies. If this work is followed through to completion, it will be a very successful model for case study. Destination 21 has also been successful in setting up a framework for tourism destinations, producing a working manual, and accepting seven regions into the first phase of the cycle. Two of these authorities are now proceeding to the second stage of

qualification. For the Greater Copenhagen Authority, the project is at too early a stage to have a measurable impact, but there is a clear expectation that the evaluation will influence the orientation of the 2005 Greater Copenhagen regional plan.

In Finland, the project impacts encompass planning systems and capacity building. In the Propolis, PSSD and Häme examples, each has produced an impact or outcome directly related to improving planning procedures. These projects have resulted in a sustainability assessment of the Helsinki Metropolitan plans, development of a methodology known as the Planner's Toolbox, and the integration of SEA into regional planning procedures. The capacity-building features were achieved firstly through the Häme project, through awareness-raising and the continuation of the process through to Agenda 21 activities, and secondly through the *Learning Sustainability* project in Lapland. In the latter example, regional awareness of sustainable development issues was increased, exchanges of experience were made between regions, and there was a wide dissemination of the results through media outlets.

In *Norway*, the common impact across projects was a raised awareness in all the involved administrations, with a broader understanding of SD and in some cases the introduction of new responsibilities. The full impact on regional plans cannot yet be determined, even though these instruments were the targets in each case. However, the institutional impact included investments for the future with regard to staff perceptions and the political discussion and weighing up of factors such as sustainable development and growth priorities. The impacts are differentiated by area: Akershus is pursuing its Regional Agenda 21 through an Action Plan and indicators; Sogn & Fjordane is moving forward incrementally, raising critical issues of production and consumption; and the GBRA has also progressed onto follow-up projects to reduce energy consumption and initiate sustainability accounting.

In Sweden, impacts have been on the content and orientation of regional programmes and agreements, and on company involvement in the environmental sector. In all four examples, the projects had a direct influence, either by interacting with – or inputting to – the drafting of the RGAs, or by the desk appraisals of completed SF programmes and producing best practice guidance. In the EPA project, this work also benefited related activity on the development of environmental and ecological indicators; in the NBHBP example, the impact extended to visiting regional authorities to encourage cross-sectoral co-operation. With regard to direct impacts on companies, the Dalarna and Småland County projects were successful in initiating environmental training for

companies, linking up compatible companies, and making entrepreneurs more aware of environmental sector opportunities and constraints. In both projects, small firms were cited as a special focus of activity.

Thematic Perspective

As with the previous thematic tables, this assessment identifies only the main impact associated with each project. On that basis, there are four categories of impact, as in Table 12.

Table 12: Typology of Project Impacts

- Institutional development perspectives
 - Plan and programme formulation
 - Public and local authority participation
 - Corporate environmental development

Institutional development perspectives represents a significant level of impact, basically changing or re-focusing the direction or values which underpin a local authority's activities, in this instance re-setting the parameters for regional development. This level of achievement was observed in Denmark and Norway. In Denmark, it related to the Storstrøms County LA21 activity, which has progressively and comprehensively moved sustainable development to the top of the agenda, from where it is expected to achieve even greater horizontal integration. In Norway, the work currently in progress both on the Sogn & Fjordane Regional Agenda 21 and on the Greater Bergen SDTP project also demonstrated that a considerable shift in priorities may emerge in the short-to-medium term.

Plan and programme formulation is the area where the greatest number of impacts occurred in the reviewed projects. Project characteristics of this type occurred in Denmark, Finland and Sweden. In Denmark, this related to the Greater Copenhagen Authority evaluation, which is expected to impact on the next regional plan for the new administrative area. In Sweden, the projects of the Environmental Protection Agency and the Board of Housing, Building and Planning are directed at modifying practice and so improving effective integration within regional plans, programmes and agreements. In Finland, the three projects of Propolis, PSSD and Häme Regional Environment Centre SEA

study all aimed to impact on plan and programme design, management and implementation.

Impacts on *public and local authority participation* are evident in examples from Denmark, Finland and Norway, relating to three projects. Destination 21 raised local authority standards and involvement through promoting sustainable tourism; Lapland University concentrated on informing, and improving the capacity of, individuals to participate in sustainable regional development; and Akershus County's RA21 activity improved familiarity with SD amongst both the county council administration and the political representatives.

Achievements in relation to impacts on *corporate environmental development* occurred in Sweden with the Dalarna NRC and Småland County projects. As the only theme to focus on the private sector, the orientation is to change perceptions by companies and firms towards environment and sustainable development. As a result, they should accept these factors as a means to improve business practice and also to increase business profits through expanded markets and more efficient operations. Both these projects adopted the task of supporting initiatives that would demonstrate these qualities to entrepreneurs and encourage them to modify procedures and processes.

8.5 Contribution to SRD

Country Focus

In *Denmark*, the Storstrøms and Destination 21 projects represented the formulation of new policy instruments for regional contexts. In Storstrøms County, these covered a wide range of sustainable development dimensions and lead directly onto a very extensive institutional commitment to adopt proactive and strategic procedures that further integrate SD into programmes, policies, plans and processes. In Destination 21, the new policy instrument was supported by the creation of new committees focused on delivering sustainability. The Greater Copenhagen evaluation is less innovative, but it represents the launch of a new process that is being constantly refined to steer procedures in plan formulation and implementation.

In *Finland*, two of the examples – Propolis and PSSD – were focused on creating new methodologies, and were therefore technique-oriented. They were seeking new practical approaches (i) to measure progress in SD within the Helsinki urban context, and (ii) to develop a means of integrating different types of data in a commonly accessible format that facilitated SD interrogation. In the latter case, the resultant Planners toolbox was a compromise, but still a pragmatic contribution to spatial planning in a regional context. The other planning example from

Håme adapted and applied an existing method – SEA – in an attempt to integrate SD principles into regional economic development procedures. The participative focus of the Lapland project was linked to capacity-building, assisting residents and local administrations both to reach a greater understanding of SD and to become directly involved as contributors to SRD.

In *Norway*, the common approach was to take an existing policy instrument or institution and orient it more towards SRD objectives. This method seems to be effective in Sogn & Fjordane, where the innovative merging of land-use planning instruments has used the RA21 principles as guidance, and consideration is to be given to designating the “total land-use plan” as RA21 in future. In Akershus, the RA21 process was followed, but there was a lower level of impact, because the timescale and the lack of institutional reform constrained its potential. The approach in Bergen was, through the promotion of a new common goal based on sustainability in regional development, to strengthen the existing institution's identity and effectiveness. The dual purpose of creating better cohesion and a better operating principle proved to be an attractive package for participating local authorities.

In *Sweden*, work on the regional programmes and agreements used an evaluative mechanism as a starting point to identify poor integration and then justify innovative pilot projects and sectoral awareness-raising. In the Environmental Protection Agency example, this also stimulated new forms of inter-departmental collaboration and a channel for input to policy instrument (RGA) design. In comparison, with regard to the industrially focused projects, the objective was to promote and/or financially support the regional environmental sector. In Småland, this represented a sectoral initiative that encompassed domestic and international companies with regard to securing international markets – so it was employed as an industrial incentive, but working within the sphere of sustainable development promotion. In Dalarna, a new institution was created with the NRC, one that developed its function over time to encourage, initiate and support ecologically-based economic growth, while simultaneously informing the community and local government officers.

Thematic Perspective

When appraising the contributions by theme, the identified principal contributions are presented in Table 13.

Table 13: Typology of SRD Contributions

- | |
|--|
| <ul style="list-style-type: none"> • New policy instruments • Institutional reform • New evaluative process or methodologies or the Further development of existing processes or Methodologies • Capacity-building or sectoral initiatives |
|--|

Projects devising *new policy instruments* to further SRD were found in Denmark and Norway. These comprised the innovative Destination 21 project, which introduced a new framework and process through its emphasis on sustainable tourism, and the two Norwegian Regional Agenda 21 projects. The RA21s established a new concept and terminology with the application of Agenda 21 principles at regional level, which were subsequently formalised through a Regional Agenda 21 report or by taking cognisance of these themes to direct priority considerations in forming regional land-use plans.

Examples of contribution through *institutional reform* to facilitate the pursuit of SRD also occurred in two projects from Denmark and Norway. These projects were the Storstrøms County LA21 initiative and the Greater Bergen SDTP international project. In Storstrøms, the scenario is one of institutional commitment, as the council has been progressively edged towards an on-going and comprehensive assessment of all its activities and outputs through its interpretation and development of Local Agenda 21 obligations. In Bergen, the reform has comprised institutional strengthening, in which participants from local authorities were introduced to a process of setting benchmarks, assessing existing practice and institutional capabilities, and then applying this knowledge in their professional contexts.

New evaluative processes or methodologies to secure SRD or further development of existing processes or methodologies were found in projects from Denmark, Finland and Sweden. This was the most frequent type of SRD contribution encountered. Using SEA to appraise regional development plans was common to the Greater Copenhagen Authority and the Häme Regional Environment Centre, and it was being encouraged in the work of the Swedish Environmental Protection Agency. Two other projects in Finland fall into this category, namely the

Propolis project to develop an evaluation methodology to *measure* sustainable policies, and the PSSD project, which aspires towards an integrative methodology to *facilitate* sustainable development. In Sweden, the evaluative project by the NBHBP also adapted an existing assessment procedure to meet the demands of the Swedish context, before critically applying this technique to Structural Funds regional programmes.

Capacity-building or sectoral initiatives designed to realise SRD were encountered in Finland and Sweden. The Finnish example of the Lapland project was the only case specifically focused on capacity-building in the public sector and amongst local communities. In comparison, the Swedish Dalarna and Småland initiatives were both closely targeted at improving the knowledge and capacity of companies in the environmental sector to improve their performance in environmental and economic terms. This was intended to reinforce private sector commitments to sustainable development and to expand this sector's activities from domestic to international investments.

9. Conclusions

9.1 Introduction

This final chapter presents conclusions to the report, divided into two categories. The first section summarises the key points emerging from the previous chapters, considering both sustainable development and sustainable regional development. The second section focuses exclusively on the Nordic context, addressing three main issues of research significance highlighted within this overview project.

9.2 Key Points

- *The concept of sustainable development has made considerable advances in recent years.*

The momentum of sustainable development has increased over the past decade, especially following the United Nations Conference on Environment and Development in 1992, which provided the stimulus of Agenda 21 and alerted governments across the world to the need to prepare actively for a re-orientation towards sustainable development.

More recently, in the preparation of European and Nordic strategies for sustainable development and the lead-up to the UN World Summit on Sustainable Development in 2002, countries that have

previously been slow to respond are now finally taking action. The outputs generally include national SD strategies and associated SD indicators, but in some cases a range of innovative cross-sectoral activities have also been designed to re-direct the conventional development orientation.

Within the Nordic countries, individual governments are now moving rapidly to provide or finalise the necessary instruments to allow their national economies to meet the requirements of the hierarchy of relevant strategies, as well as to provide direction and guidance for the work of ministries and other public-sector agencies.

- *Sustainable development at the regional level is emerging as an area meriting special attention.*

Consistently, sustainable development has evolved as a global, national and local concern. These levels of intervention have been considered appropriate for differentiated activities: first, for gaining consensus on the problems being faced; second, for attributing national responsibilities and the role of central government; and third, for generating capacity-building within communities that directly tackles the behavioural trends that have lead to diminishing resources and a lack of popular involvement.

In a new impetus, consideration is now being given to the scope available for SD initiatives at the regional level. Acting as a vital link between the national and local policy contexts, it is now increasingly recognised that regional projects may have considerable potential to assist in meeting the requirements for the transition to sustainable development.

- *Sustainable regional development, as a distinct activity, has been under development for several years.*

During the past five years, a range of overview studies has structured comparative and cross-national perspectives in attempts to rationalise the various concepts and applications of sustainable development occurring within regionally-defined settings. In parallel, a series of research projects has highlighted key themes or characteristics that typify SRD implementation, SD components and/or frameworks that might be used directly to develop methodologies to guide SRD decision-making in practice. Other related activity has resulted in the establishment of a formal network for research into SRD in Europe, with

its results disseminated for example through symposia and international workshops.

- *SRD has now reached a significant stage, exemplified by the launch of an EU thematic evaluation of sustainable development in the Structural Funds.*

Following the recent EU adoption of a sustainable development strategy, the regional policy directorate in the European Commission is financially supporting an evaluation of the contribution of the Structural Funds to sustainable development. Evidently, the progressive rise of environmental concern in the regional programmes is now culminating in a study that should both assess previous impacts and direct future impacts for the benefit of sustainable development. For those countries within, or adjacent to, the EU territory, this measure can be expected to result in the publication of influential guidance to be used in the design of new regional programmes and in the evaluation of operational programmes. This will elevate SRD to the status of a key component of regional policy.

- *Within the Nordic countries, a limited range of project activity can be identified as corresponding either wholly or partially to SRD.*

Governments in the Nordic countries have not provided specific SRD-guidance, but individual regions have nevertheless taken the initiative to support projects that integrate elements of SD to differing extents.

In terms of *objectives* within these projects, the most common have been directed at impacting on regional planning, regional development instruments, regional agenda 21, the greening of industry, tourism and regional capabilities. With regard to *activities*, their engagement has involved aspects of cross-national collaborative research, procedural development, network creation, and designing new policy instruments or framework initiatives.

Identifiable *impacts* from projects have related to the areas of institutional development, plan and programme formulation, public and local authority participation, and corporate environmental development. Finally, in terms of *SRD-related features*, these projects have created new policy instruments, initiated institutional reform, launched new evaluation processes or improved existing processes, and facilitated capacity-building and sectoral initiatives.

9.3 Issues of Research Significance

- *There is a distinct lack of awareness amongst Nordic regional policy-makers and researchers of the existence of SRD theory and practice.*

Whereas a number of Nordic regional projects contain certain characteristics of SRD, this inclusion does not necessarily signify a prior knowledge of the SRD concept. Rather than drawing on the material and experience already available in other regions, these projects often operate without external consultations or access to a knowledge base, and they remain unaware of other Nordic projects addressing similar objectives or experimental methods. Equally, attempts by research institutes and government agencies to implement regional research and/or policy instruments based on sustainable development are frequently occurring in parallel with – but in isolation from – SRD activities in other European countries.

In consequence, when attention turns to realising sustainable development at the regional level, the approach adopted is more typical of what might be termed “regional sustainable development” – in effect RSD instead of SRD. This means that each case is starting from the beginning, trying to modify SD in a workable fashion, rather than benefiting from established (and documented) SRD experience.

The second symposium held by the European Network for Sustainable Urban and Regional Development Research was held in Finland in 1999. However, those attending represented specialist interests – mostly academic – from across Europe, and the message that regional development and sustainable development could be integrated did not reach the wider Nordic audience.

Research support into resolving this lack of awareness may be best aimed at facilitating a Nordic network for SRD information exchange. For example, this could be co-ordinated by a central institution and contact point, capable of providing workshops and training sessions, in addition to accessing relevant case-study materials.

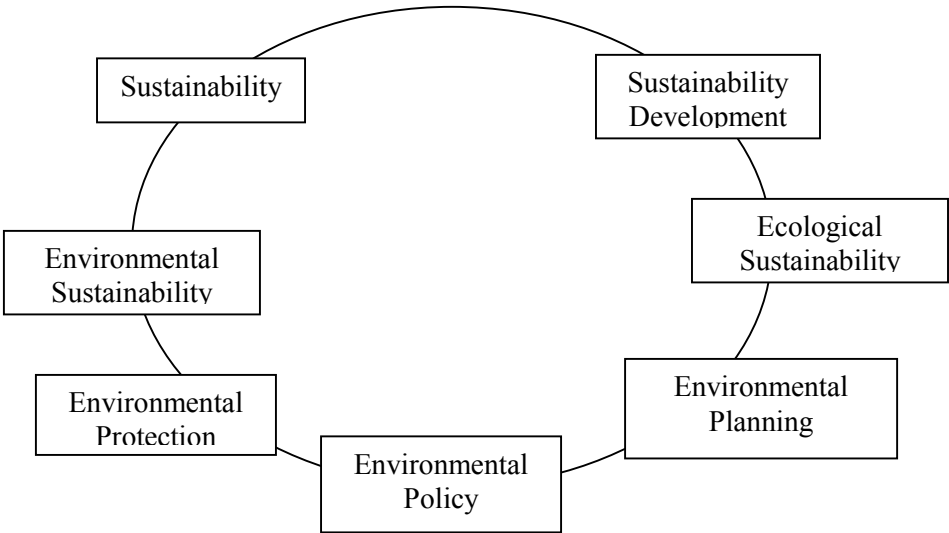
- *In practice, the transition towards SRD in the Nordic countries is hindered by conceptual overlap by policy-makers and researchers, amongst others.*

In a number of areas, from national level down to project level, a range of different concepts are being interpreted as sustainable

development. For example, during the survey research for this report, each of the terms in Figure 1 was understood by particular respondents as referring to SD. Even though disciplinary and hierarchical distinctions between these concepts and practices should be apparent to those engaged in this field, such clarity was not always recorded. In implementation, this becomes yet another hurdle for projects seeking to make the essential move generally from one-dimensional environmental assessment to the multi-dimensional character of sustainable development.

Those actors within this category include government staff administering environmental initiatives, consultants acting as advisers or evaluators, and academics and researchers. In some instances, the overlap results from a strong belief in the strength and comprehensiveness of the environmental policy framework in the Nordic countries, as well as the related identification of the sectoral origins of SD as environmental/ecological. In other cases, it relates more to disciplinary divisions or institutional reluctance to accommodate change and broader perspectives.

Figure 1: Terms used interchangeably or frequently understood as sustainable development



Further research into this issue should both identify the constraints imposed or opportunities lost through this conceptual confusion, as well as seeking to present clearly the distinctions between these concepts individually and how they interact during policy formulation.

- *There is a considerable diversity of approaches approximating to SRD within the Nordic countries*

In the absence of national or Nordic guidance on regional sustainable development, a wide range of project types and methodologies has been adopted in practice. This diversity is both interesting and useful in offering a laboratory of examples of possible alternative means of pursuing SRD objectives, and in some cases, very considerable progress has been made. However, in other instances, the outcomes have been less successful, for example in promoting innovative political and social priorities or securing region-wide forms of co-operation.

It is evident in many cases that the most direct routes to linking regional development and sustainable development are not being followed. Instead, policy implementation in the various national and regional contexts has often taken indirect routes, reflecting political and institutional constraints, and resulting in much slower, diplomatic compromise in an attempt to pursue SRD-related goals over the longer term.

To facilitate the transfer of experience between projects or regions, further research could usefully categorise best practice projects and analyse operational strengths of existing initiatives. For example, this might include identifying areas of greatest progress, documenting barriers encountered and how they were overcome, and highlighting lessons learned that should be replicated or avoided. Furthermore, establishing a set of benchmarks in this field for use across the Nordic countries could also extend further a field in terms of influence, helping to create and promote a Nordic identity in this area.

APPENDIX 1

THE GRAZ CHARTER ON SUSTAINABLE REGIONAL DEVELOPMENT

1. Goal of the Charter

The Graz Charter outlines basic principles which members of the European Network for Sustainable Regional Development (ENSURE) accept for their work. ENSURE encourages co-operation between its members, supports exchange of information and seeks to influence the political discourse about issues relevant for sustainable regional development. All parties wishing to participate in the Network are asked to accede to this Charter. Thus, it will define a common ground for co-operation across disciplines, epistemologies, methodologies, and implementation efforts. The Graz Charter makes explicit reference to and supplements the recommendations given by, among others, the Brundtland-Report, the Rio-Declaration, the Agenda 21, the Aalborg Charter, the Lisbon Action Plan and The Bellagio Principles.

2. Sustainable Development

Sustainable development is a necessary global strategy to ensure human development in dignity and in harmony with the evolution of the global ecosystem. It can only be reached if development on the local and regional level is also oriented towards this goal. Sustainable development should contribute to safeguard the global life support system and foster intergenerational and intergenerational justice in the access to natural resources. All human rights declarations have as their basis the right to life and physical integrity. Therefore, a healthy environment and the satisfaction of basic needs for all humans is fundamental for all debates about sustainable development.

Sustainable regional development is defined as a local, informed, and participatory process, which seeks a balance between economic, ecological and social sustainability.

3. The regional scale

The concept of region as the base for sustainable regional development is used as a conceptional tool to link ecological, social and economic processes to specific spatial settings. The framework of concrete spatial units where people spend most of their time and activities is a hallmark of

sustainable regional development. A vital part of sustainable regional development is the identification of individuals with their cultural and social environment. Successful regional development builds on strong identification of individuals with their locality. While regional autarky is neither possible nor preferable, regional autonomy should be increased. This includes more autonomous decision-making on regional matters as well as adequate means to implement such decisions. Regions should be represented at higher levels of decision-making to give them proper weight in democratic processes. However, regions are very differently supplied with natural or man-made resources. They should not be allowed to become units of self-administered poverty. Mechanisms must be provided to level out the major differences in their capacity to satisfy basic human needs.

4. The ecological dimension

The bottom-line and the most threatening component of the global crisis is the rapid degradation of the natural environment. Sustainable development aims to reconcile human activities with the requirements of the ecosystem. Humans are an integral part of this ecosystem. As regions are subunits of this ecosystem, they contribute to its state and integrity. Society is the specific form of humans to organise their metabolism with nature. Throughout history, humankind has gradually increased its consumption of natural resources. Today, this consumption is not only exorbitant but also extremely unequally distributed, as is the responsibility to reduce the ecological footprint. Some regions are of special relevance for the global life-support system. In the global interest, they might need special protection.

5. The socio-cultural dimension

Local knowledge, cultural heritage and individual needs are indispensable sources of information for sustainable regional development. These sources must be respected so that indigenous information may be effectively integrated into any sustainable regional development endeavour. However, care must always be taken to put regional knowledge in a global perspective. It is necessary to propagate a new understanding of welfare that can no longer be based on the consumption of natural resources. Rather, self-determination, the disposition over one's own time and content of personal activities, solidarity with other humans and the non-human world and the appreciation of the beauty and harmony of nature are the pillars on which a new understanding of welfare should be based.

6. The economic dimension

The satisfaction of basic needs for all human beings is the ultimate goal of sustainable development. It should be reached with minimum natural resource throughput. Regional subsistence, sufficiency and resource efficiency are means to this end. Regions should be organised in a way so as to supply their respective populations with the means to satisfy their basic needs, absorb their own emissions, and avoid the externalisation of costs to other regions or to future generations.

7. The ethical imperative of science

The scientific community has serious ethical responsibilities. Research activities and results alter in many ways the reality and well-being of humans and other living creatures. Due to egoism and structural conditions, scientists have often not lived up to this standard. Sustainable regional development researchers have, compared to other scientists, an increased responsibility to society in general and to future generations. This is due to their direct political and social influence as well as to their global, long-term, future-oriented scope. Every scientist brings to his/her work a particular set of ethical values, concerns and expectations. Sustainable regional development requires that the researcher take an active part in a participatory process. This requires openness with respect to the fact that sustainable development research is a flexible process not leading to a final, unchangeable "truth", but to insights on the basis of existing knowledge and assumptions underlying scientific methods. Sustainable regional development research can play its role as facilitator only if it is capable of entering a dialogue with citizens in the region. It must adapt the form and content of its communication and dissemination to the requirements of its various partners in the region.

APPENDIX 2

ENSURE NETWORK ADVISORY BOARD AND NATIONAL FOCAL POINTS

Advisory Board

Miklos Bulla	Széchenyi István College	Dept. For Environmental Engineering
Ann Buttmer	University College Dublin	Department of Geography
Chris Church	LA 21 Co-ordinator, Community Development Foundation	United Nations Environment and Development Committee for the UK
Frans Coenen	CSTM	Twente University
Leila Häkkinen	Academy of Finland	Research Council for Environment and Natural Resources
Bernd Hamm	Director, Center for European Studies	
Peter Hardi	International Institute for Sustainable Development	
Maria Kousis	University of Crete	Department of Sociology
William Lafferty	ProSus	SUM
Olouf Langhelle	Rogaland Research	
Corinne Larrue	Université de Tours	Centre de recherche 'Ville Société Territoire'
Reimar Molitor	Institut für ökologische Wirtschaftsforschung	
Michael Narodoslawsky	Institut für Grundlagen der Verfahrenstechnik und Anlagentechnik	TU Graz
Zev Naveh	Faculty of Agricultural Engineering	Israel Institute of Technology
Natalia V. Penkova	State Hydrological Institute	
Ronald J. Pohoryles	Interdisziplinäres Forschungszentrum Sozialwissenschaft	
Ruggero Schleicher- Tappeser	EURES - Institut für Regionale Studien in Europa, Schleicher-Tappeser KG	
Uno Svedin	The Swedish Council for Planning and Coordination of Research	

National Focal Points

Akhtar Chauhan	Rizvi College of Architecture, Mumbai (Bombay)	IND
Harry Coccossis	Professor of Environmental Planning; University of the Aegean	GR
Frans Coenen	CSTM; Twente University	NL
Nikolai Genov	Bulgarian Academy of Science, Institute of Sociology; Global and Regional Development, institute fo Sociology	BG
Peter Hardi	International Institute for Sustainable Development	CAN
Anders Hjort af Orniäs	Tema V; Linköping Universitet	S
Jesper Holm	Department of Environment, Technology and Social Studies; Roskilde University Centre	DK
William Lafferty	ProSus; SUM	N
Corinne Larrue	Centre de recherche 'Ville Société Territoire; Université de Tours	FR
Reimar Molitor	Institut für ökologische Wirtschaftsforschung	DE
Michael Narodoslawski	Institut für Grundlagen der Verfahrenstechnik und Anlagentechnik; TU Graz	AT
Natalia V. Penkova	State Hydrological Institute	RUS
Joe Ravetz	Dept. of Planning and Landscape; Manchester University	GB
Filippo Strati	Studio Ricerche Sociali Firenze	IT
Joan Subirats	Department Political Science and Public Law; Universitat Autònoma de Barcelona	E

APPENDIX 3

PROGRAMME OF INTERVIEWS CONDUCTED

<i>Denmark</i>
• Lisbet Ogstrup, Ministry of Environment and Energy • Mette Kragh, Ministry of Environment and Energy • Ole Damsgaard, Danish Planning Institute • Bo Elling, University of Roskilde • Per Christensen, University of Aalborg • Hans Eklund, Greater Copenhagen Authority • Bjarne Rasmussen, Storstrøms County • Steen Achton, Destination 21
<i>Finland</i>
• Anne-Marie Valikangas, Regional Development, Ministry of the Interior • Sauli Rouhinen, Ministry of the Environment • Seppo Särkkä, University of Lapland • Hilkka Vihinen, Finnish Environmental Economic Research Institute • Esko Eerola, Uusimaa Regional Council • Jukka Mikkonen, Päijät-Häme Regional Council • Mirja Lumiaho-Suomi, Häme Regional Environment Centre • Kari Lautso, LT Consultants
<i>Norway</i>
• William Lafferty, ProSus, University of Oslo • Jacob Aars, University of Bergen • Arne Tesli, NIBR, Oslo • Vibeke Nenseth, NIBR, Oslo • Carlo Aall, Western Norway Research Institute • Eirik Setter, Greater Bergen Regional Association • Anne Holten, Akershus County
<i>Sweden</i>
• Ulrik Westman, Swedish Environmental Protection Agency • Ingrid Hasselsten, Swedish Environmental Protection Agency • Jan Gunnarson, Boverket • Lars Aronsson, University of Karlstad • Roger Hildingson, Växjö Municipality • Bo Lindholm, Kalmar Municipality • Els-Mari Julin, Dalarna Natural Resource Centre

APPENDIX 4

PROJECT-LEVEL QUESTIONS WITHIN INTERVIEW PROGRAMME

1. Origins of Project Idea

- e.g. European influence, Nordic practice, SRD literature etc

2. Project Focus

- Does the project have a specific research question?
- What are the main issues being addressed within the project?
- Has the project been oriented towards institutional change, new policy institutions, process change or other outcomes?
- Why were those features chosen as the focus?

3. Project Parameters

- Timescale (or duration, if already finished)
- Source and scale of funding made available
- Spatial coverage/areas under examination
- Political commitment or support

4. Approach

- What methodology is being used e.g. historical review of change, regional comparison, international comparison, case study analyses?
- Is the research perspective **vertical** (between different scales or hierarchy levels) or **horizontal** (between different actors or institutions, or between the social, economic and environmental dimensions of development)?
- Is the data analysis quantitative or qualitative, or a combination of both?
- Is it a desk study, reviewing documented material, or does the project include empirical research or interviews with different actors?

5. Results

- If the project is still on-going, what outcomes are expected?
- If the project is completed, can the main results be summarised?
- Are the results intended to feed directly into the policy process?
- At this stage, do the results meet the expectations from the project launch?
- Are further steps envisaged, perhaps extending the work to other regions or countries?

APPENDIX 5

LEARNING FROM NORDIC EXPERIENCE - THE NEXT PHASE

A follow-up project has been designed to take the research further, using the broad horizontal overview as a basis for an in-depth, vertical exposition through case studies. The project has three objectives designed directly to enhance regional policy delivery.

i) Derive a detailed knowledge of factors impacting on SRD realisation

In practice, this means pursuing greater detail on promising case studies to *generate a better understanding* of the interaction between individuals, institutions and processes that determine project effectiveness. Going beyond single interviews (as in the previous research), the fieldwork will draw in a wider circle of actors and organisations at national, regional and local levels, as well as related county departments and other project beneficiaries. From each perspective, what are the key factors that helped or hindered implementation and for what reasons? This focus is intended to show both how and why projects are unique, whether this diversity has proved beneficial, and how these characteristics can be isolated and compared in different contexts across regions, countries and industrial sectors.

ii) Identify and highlight best practice in Nordic SRD

This objective adopts a normative perspective seeking to *create benchmarks* through cataloguing operational strengths. In relation to their original aims, where have projects made greatest progress? What were the barriers to realising objectives, and how were they overcome? What lessons were learned or actions taken that should be replicated or avoided? The immediate benefits of assembling this material will be directly realised by practitioners and researchers, with guidelines that facilitate implementation and evaluation at different levels. As a first priority, the outcome of this stage would be the derivation of benchmarks for use across the Nordic countries.

iii) Facilitate a Nordic network for SRD information exchange

This third objective is to develop this opportunity for Nordregio to function as *a central institution and contact point* for promoting SRD in the Nordic countries. The outcome of this phase would be an informal network facilitated by Nordregio, with for example an internet homepage linked to Nordregio's, allowing access to relevant reports and contact with research staff. In addition to SRD information provision and liaising between national, regional and local actors, Nordregio's educational input would extend to workshops and training sessions held in each country.

Methodology

To achieve the three objectives and progress beyond the breadth of the overview project, selected case studies will be explored in each country. In the research design, the criteria for choosing these case studies are not based on similarity, but rather on distinctiveness. Each should exhibit interesting features, for example in the logic of methodology and its scope for wider replication or in the conflicts or challenges overcome that can offer important lessons for other regions or national contexts.

Two projects from each of Denmark, Finland, Norway and Sweden will be returned to for more extensive investigation as case studies. Participants will be drawn from a number of different levels, as well as from parallel organisations. Depending upon the specific project, the number of meetings has been set at 10-15 for each case study.

This follow-up project will be conducted over a 12-month period.

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LIST OF ACRONYMS AND ABBREVIATIONS

CEC	Commission of the European Communities
D21	Destination 21
DG	Directorate General (European Commission)
EIA	Environmental Impact Assessment
ENSURE	European Network on Sustainable Urban and Regional Development
EPA	Environmental Protection Agency
ESD	Ecologically Sustainable Development
ESDP	European Spatial Development Perspective
EU	European Union
FNCSD	Finnish National Commission on Sustainable Development
GBRA	Greater Bergen Regional Association
GIS	Geographic Information Systems
GNP	Gross National Product
HUR	Hovestadens Udviklingsråd (Greater Copenhagen Council)
INSURED	Instruments for Sustainable Regional Development
LA21	Local Agenda 21
LIP	Local Investment Programme
NBHP	National Board of Housing, Building and Planning
NGO	Non-Governmental Organisation
NRC	Natural Resource Centre
PSSD	Planning System for Sustainable Development
R&D	Research and Development
RA21	Regional Agenda 21
RGA	Regional Growth Agreement
RTD	Research and Technological Development
SD	Sustainable Development
SDTP	Sustainable Development Through Planning
SEA	Strategic Environmental Assessment
SME	Small and Medium-Sized Enterprise
SPD	Single Programming Document
SRD	Sustainable Regional Development
SWOT	Strengths, Weaknesses, Opportunities and Threats
UN	United Nations
WCED	World Commission on Environment and Development

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- ◆ disseminating experience and contributing to the professional discussion on spatial analyses, planning and policies.

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