

EURACADEMY ASSOCIATION

EUROPEAN ACADEMY FOR SUSTAINABLE RURAL DEVELOPMENT

THEMATIC GUIDE SEVEN

**Sustainable 2020 for Rural
Environment in Europe**

EURACADEMY THEMATIC GUIDE SERIES

EURACADEMY ASSOCIATION
European Academy for Sustainable Rural Development

THEMATIC GUIDE SEVEN
Sustainable 2020 for Rural Environment in Europe

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PREFACE

Euracademy Association is a pan-European, non-profit membership organisation devoted to capacity-building of rural communities in Europe. The Association brings together planners, researchers and practitioners of rural development from a host of European countries. A Summer Academy on a theme pertinent to sustainable rural development is organised every year in a different location; also, a Thematic Guide is published every year and a distance learning course is run, on the same theme as the Summer Academy. In addition, the Association organises conferences, undertakes research and coordinates EC-funded projects with a view of building up a body of knowledge on sustainable rural development. These activities aim to prompt lifelong learning opportunities amongst members of rural communities, by using a variety of educational means.

This is the Seventh Thematic Guide in the Euracademy series. It has been used as a reference tool in the Seventh Summer Academy, held in Želimišlje, Slovenia from 16 to 23 August 2008. This Thematic Guide has been revised in the light of the discussions in the summer academy, enriched with examples brought in by participants, and published. It aims to provoke the reader's thinking on topics as:

- Sustainable environment for rural development - an overall view
- Climatic change
- Protected areas
- Landscape conservation and protection
- Sustainable agriculture
- Environmental management
- Awareness raising and community action

For the Euracademy Association, this issue is part of the broader challenge of **sustainable rural development**. It inevitably cross-relates to, or overlaps with, themes of previous Summer Academies, e.g.:

- **Developing Sustainable rural Tourism**
- **Social Capital and Sustainable Rural Development**
- **Culture and Sustainable Rural Development**

Good reading!
The Euracademy Association

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CHAPTER 1.

An overview of environmental sustainability issues and policy

Environmental Sustainability in the global and local contexts

1.1 Sustainable development has become almost a mainstream idea within Europe in the last decade. Moreover, a consensus is building that sustainable development has three pillars: sustainable environment, sustainable economy and sustainable society. The priority of the environment over the other two pillars of sustainability is however unquestionable: if the global community destroys the land, the water and the air of the earth, we will simply cease to exist. This is why sustainable development is often equalled to environmental sustainability, that is, the protection and preservation of natural resources, the reduction of pollution, the control of climate change. For rural areas, where a large part of the economic activity depends on or is related to the natural environment, the concept of sustainability has, inevitably, strong environmental overtones.

1.2 Each facet of sustainability has its own unique configuration. Environmental sustainability implies environmental stewardship – passing a usable and un-degraded environment to subsequent generations. Social and cultural sustainability implies that the benefits of belonging to a society apply to all its members across the social spectrum. Economic sustainability implies that economic gains are not confined to just a few members of a society, and that current economic gains do not negatively affect future opportunities. All facets of sustainability imply a strong principle of equity – that gains made in one endeavour do not prejudicially affect future endeavours¹.

1.3 Sustainable development has become a global issue: the subject of world-wide and European summits, the content of European directives and national policies, the focus of international agreements and declarations. Most notable of these declarations is Agenda 21, the Rio Declaration on Environment and Development, adopted by more than 178 Governments at the United Nations Conference in Rio de Janeiro, in June 1992. Agenda 21 is a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System,

Governments and Major Groups in every area in which humans impact on the environment.

Agenda 21 at a glance²

There are 40 chapters in Agenda 21, divided into four sections. The full document numbered over 900 pages:

Section I: Social and Economic Dimensions

Including: combating poverty, changing consumption patterns, population and demographic dynamics, promoting health, promoting sustainable settlement patterns and integrating environment and development into decision-making.

Section II: Conservation and Management of Resources for Development

Including atmospheric protection, combating deforestation, protecting fragile environments, conservation of biological diversity and control of pollution.

Section III: Strengthening the Role of Major Groups

Including the roles of children and youth, women, NGOs, local authorities, business and workers.

Section IV: Means of Implementation

Including science, technology transfer, education, international institutions and mechanisms and financial mechanisms.

1.4 Later, during the United Nations Millennium Summit in September 2000, 189 nations adopted the Millennium Declaration, which constitutes an unprecedented promise by world leaders to address, as a single package, peace, security, development, human rights and fundamental freedoms. The Millennium Development Goals (MDGs) are drawn from the global actions contained in the Millennium Declaration, representing an ambitious agenda for reducing poverty and improving the lives of people across the earth (UNDP, 2006).

¹ See also Euracademy Thematic Guide 5: Social Capital and Sustainable Rural Development

² http://en.wikipedia.org/wiki/Agenda_21

The eight Millennium Development Goals (MDGs)**Goal 1** Eradicate extreme poverty and hunger**Goal 2** Achieve universal primary education**Goal 3** Promote gender equality and empower women**Goal 4** Reduce child mortality**Goal 5** Improve maternal health**Goal 6** Combat HIV/AIDS, malaria and other diseases**Goal 7** Ensure environmental sustainability**Goal 8** Develop a Global Partnership for Development

1.5 Environmental sustainability is at the heart of the 7th MDG, but a large number of environmental considerations are also embodied in the other goals, giving such issues as land degradation, biodiversity, natural resources management and entitlement, water, air, natural hazards, climate, waste and energy a prominent role in improving human life and equity on earth. It is worth keeping in mind this approach, which connects directly environmental exploitation and deterioration with poverty, reflecting on the methods of economic development enforced on poor countries by the leading players of the global market. As noted in the introduction of a study on rural development and the environment:

"Rural poverty and environmental degradation tend to be associated in the same spatial areas... However, the linkages between development in rural areas and the protection of the natural environment are much more complex than is often admitted. The processes, policies and institutions generating poverty and environmental decay interact at all levels - from that of individual households... to that of transnational organisations, policies and markets" (Barraclough Solon, Ghimire Krishna, Melizek Hans, 1997).

1.6 Sustainability is not only a global concern, but a local one as well. Indeed, it is at the local and regional levels that most actions to achieve sustainable development take a meaning. A good way to look at development is to see it as an exchange between the local community and the outside world. Development can be seen as a process whereby local assets are developed with the assistance of outside assets to produce new wealth-generating activities. This approach is known as *Asset-based Rural Community Development* and is becoming a key both of visualising the rural development process, and of providing a way to operationalise and materialise the need for sustainable development in a way that rural communities can gain benefit (Evans, R., 2006).

1.7 Local governments are important actors in implementing sustainability strategies and local

governance has been considered by some as the fourth pillar of sustainable development. The implementation of the principles of Agenda 21 at local level resulted to the initiative of Local Agenda 21, which was taken up by a large number of local authorities in Europe wishing to support sustainability targets. Although the initiative has been centred largely on urban areas so far, it seems relevant and promising for rural areas too. However, to achieve sustainable development requires attention and action at all levels: local, regional, national, international and global, as well as involvement of all "stakeholders", from government, business and the civil society to individual residents of an area.

The challenges

1.8 Environmental concerns are high on the list of governments and policy makers, although it has been often noted that only lip service is paid to them. Indeed, the "implementation gap" has been officially pronounced as the factor hampering progress on environmental issues (*European Environment Agency, 2007*). The results of Conventions, World Summits, United Nations' Conferences etc do not seem to have a real impact on the ground, at least as widespread as to become visible to the individual at the local level. This individual, across Europe, undergoes a period of transition and is dominated by feelings of insecurity, as the European Environment Agency openly accepts:

"The socio-economic climate today is significantly different from ten to twenty years ago. Again, security issues and concerns about food and health are high on the agenda, and to this is added a popular disquiet about globalisation. At the same time, environmental concerns such as climate change, loss of biological diversity and global environmental degradation, are regularly seen in news stories adding to people's increasing sense of insecurity."

1.9 Globalisation in the economic, social, political technological and cultural realms has been admitted now to have significant consequences for the environment. Many of the environmental challenges have become shared concerns across the world in both rural and urban areas. Land use changes, climate change and global warming, reduced water availability and quality, loss of biodiversity, soil degradation, sea-level rise, all have serious impacts, especially upon rural areas. These impacts have an immediate and direct effect upon the productive activity and livelihood of rural communities.

1.10 The challenges posed to rural areas because of diminishing environmental sustainability are, therefore, many and serious, threatening the livelihood and survival of rural communities to a much greater extent than their urban counterparts. We list below some of these

challenges which we consider important for sustainable rural development.

1.11 Patterns of production and consumption.

These are driven by society's desire for higher standards of living, reflecting in higher needs for resources. Patterns of consumption are changing rapidly across Europe and in the world, with notable increases in the shares of transport, communication, housing, recreation and health. Production patterns, especially related to agriculture and forestry, have affected the rural environment drastically, pointing to the need for a new approach to agriculture, with a stronger emphasis on sustainability (see chapter 3). Sustainable production and consumption has become a prominent issue in the sustainability debate.

1.12 Environment-related health concerns.

These result from continuing pollution of air, water and soil. Despite considerable reductions in air pollutant emissions in many European countries, atmospheric pollution still poses a significant threat to human health and the environment as a whole. A recent movement, that of the "sozo-ecology", is trying to make people aware of these threats, proposing solutions to deal with them (see paragraph 1.25).

1.13 Climate change. It is mainly driven by energy consumption and the resulting emission of greenhouse gases (GHG), causing extreme weather events (such as flooding or droughts) and affecting a range of socio-economic activities such as agriculture and tourism. The impacts of climate change on society and natural resources are already visible both across Europe and worldwide, and are projected to become even more pronounced (see chapter 2).

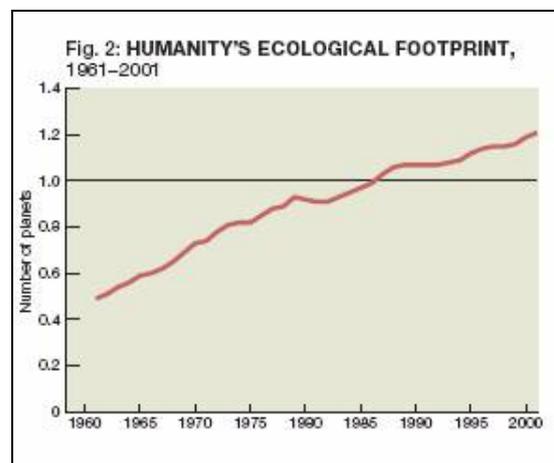
1.13 Biodiversity loss. It occurs particularly in farmland, mountain regions, forests and coastal zones, as a result of land use changes, urban sprawl, infrastructure development, acidification, eutrophication, desertification, resource overexploitation, intensification or abandonment of agriculture and last but not least, as a result of climate change. Equally serious is the overuse of marine resources and pressure on coastal environments. The designation of protected areas and their appropriate management as regulated by European Union decisions and international conventions aim to tackle this challenge (see chapter 4).

1.14 Degradation of rural landscapes. This is partly due to some of the previous challenges, but it may also reflect the lack of integration between the three pillars of sustainable development – environment, economy and society. Few areas in Europe remain in their natural state; in most landscapes there are traces of human interaction resulting from centuries of migration, human settlement and land reclamation and exploitation. In terms of land use, agriculture can be singled out as having had by far the heaviest influence on

Europe's landscapes, because it affects habitats and species which depend on such natural elements as soil, vegetation and access. Demography and other economic activities, such as industry and tourism have also contributed to the deterioration and character change of rural landscapes (see chapter 5).

Monitoring sustainability

1.15 Sustainability is a simple idea. It is based on the recognition that when resources are consumed faster than they are produced or renewed, the resource is depleted and eventually used up. In a sustainable world, society's demand on nature is in balance with nature's capacity to meet that demand. When the demands for ecological resources exceed what nature can continuously supply, we move into what is termed **ecological overshoot**. Monitoring the impact of human activity on the environment is critical for knowing to what extent the challenges to sustainable development have been addressed. There are several monitoring tools, some of global, other of local application. The best known is perhaps the **ecological footprint**, which refers to a population of any size (an individual, a city, a region, a nation, all of humanity): it measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes. By measuring the ecological footprint of a population, we can assess our overshoot, which helps us manage our ecological assets more carefully.



1.16 Today, humanity's ecological footprint is over 23% larger than what the planet can regenerate³. In other words, it now takes more than one year and two months for the Earth to regenerate what we use in a single year. We maintain this overshoot by liquidating the planet's ecological resources. This is a vastly underestimated threat and one that is not adequately addressed.

³ <http://www.footprintnetwork.org>

Calculation of the ecological footprint

The total "footprint" for a designated population's activities is measured in terms of "global hectares". A global hectare is one hectare of biologically productive space with an annual productivity equal to the world average. Currently, the biosphere has approximately 11.2 billion hectares of biologically productive space corresponding to roughly one quarter of the planet's surface. Dividing the 11.2 billion hectares available by the global population indicates that there are on average 1.8 bioproductive hectares per person on the planet. The 2004 Living Planet Report claims that the actual usage was 13.5 billion global hectares or 2.2 hectares per person – a 22,22% overshoot. Such an overshoot is ecologically unsustainable. Time series of the global ecological footprint indicate that human activities have been in an overshoot position for approximately three decades, and the overshoot is increasing over time (WWF, 2004).

According to an international report (World Resources Institute, 2000), it has become increasingly evident that renewable resources, and the ecological services they provide, are at great risk. This risk is indeed greater than the growing depletion of non-renewable resources such as minerals and petroleum, Examples include collapsing fisheries, carbon-induced climate change, species extinction, deforestation and the loss of groundwater in much of the world.

1.17 The process of continuous observation of the environment and adaptation of action is at the core of **ecological monitoring**. Needless to say that ecological monitoring is not meant to limit the use of natural resources or to limit options for development, but is a way of wise long-term development planning. It is a prerequisite for sustainable management of natural resources and ecosystems. The methods used for ecological monitoring range from highly scientific to practical, policy oriented ones, and may include both global systems and bottom-up, participatory approaches at local level.

1.18 The United Nations in their Development Programme (UNDP) suggest a framework of "global indicators" for environmental sustainability, which national governments need to tailor to their national realities. The **targets** and **indicators** are illustrative of key global environmental issues and commitments (see Box). This framework assumes that improvements at the national level would impact regional and global trends, by achieving the Millennium Development Goals by 2015 (see paragraph 1.4).

1.19 Progress in environmental monitoring at national level is not however satisfactory, and many European countries lag behind in this respect. An OECD Report (OECD, 2007) makes special reference to Eastern Europe, stating that

"overall, progress in environmental monitoring is mixed and little progress on monitoring priority-setting has taken place. Progress on harmonisation is also slow – for example, air quality data generated by hydro-meteorological services and ministries of health are still generally incompatible as they use differing equipment and methods. In most cases, existing observation networks have not been reviewed since their inception decades ago and do not meet current national requirements".

UNDP Framework of global indicators	
TARGETS	INDICATORS
Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	<ul style="list-style-type: none"> • Proportion of land area covered by forests • Ratio of area protected to maintain biological diversity to surface area • Energy use per \$1 GDP • Carbon dioxide emissions (per capita) and consumption of ozone-depleting chlorofluorocarbons • Proportion of population using solid fuels
Halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation	<ul style="list-style-type: none"> • Proportion of population with sustainable access to an improved water source, urban and rural • Proportion of population with access to improved sanitation
Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers	<ul style="list-style-type: none"> • Proportion of households with access to secure tenure

1.20 An example of a different type of monitoring, which is participatory, community-based and community controlled is provided in the SAFIRE Manual (Fröde Alexander and Christopher Masara, 2007) which, although addressing specifically developing countries, has a wider relevance to all rural areas. Ecological monitoring is defined as the collection, analysis and interpretation of data on the natural environment, above all on changes that occur in a certain ecosystem, with emphasis on the response of the environment to human interventions, aiming to predict the actual or likely impacts. The collection of data is performed by members of local communities. This helps local people to understand processes in the environment that can serve as an "early warning" system. That is, it enables rural inhabitants to recognise negative ecological effects of their

activities at an early stage and to adapt their action, based on the principle that local people know best, they are on site and they have a direct interest in the process. Without excluding help from experts, rural community members are also instructed to recognise the main sustainability issues in their area and rate the condition of the local ecosystem and its components (e.g. soil condition, erosion, water quality, flooding, overgrazing, management sufficiency etc).

Environmental impact assessment

1.21 An **environmental impact assessment (EIA)** is a systematic assessment of the potential impacts –positive or negative– of a proposed plan or project and its alternatives on the [natural environment](#), leading to proposals of appropriate measures to mitigate negative environmental impacts and optimise positive ones. The purpose of the assessment is to ensure that decision-makers consider the environmental impacts before they decide whether to proceed with a plan or project. Legislation enforcing EIA has been introduced in all European Union states, following a series of relevant Directives of the European Parliament and the Council of Europe.

1.22 The European Parliament and the Council of Europe have issued three Directives (in 1985-amended 1999, in 2001 and in 2003) imposing Environmental Impact Assessment and Strategic Environmental Assessment to all plans, programmes, measures and works undertaken by member states, that may have an impact on the environment. The Directive 2001/42/EC states:

"Environmental assessment is an important tool for integrating environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment in the Member States, because it ensures that such effects of implementing plans and programmes are taken into account during their preparation and before their adoption".

It then proceeds to introduce a framework and a set of compulsory regulations for Strategic Environmental Assessment (SEA), in line with the UNECE (United Nations Economic Commission for Europe) Convention on "Environmental Impact Assessment in a Transboundary Context" (1991). The SEA Directive came into force in July 2004. A more recent Directive (2003/35/EC) introduces compulsory **public participation** in the process of environmental assessment.

Environmental issues and concerns that should be considered under the SEA Directive

Environmental issues:

- biodiversity, fauna and flora
- population and human health
- soil

- water
 - air and climatic factors
 - material assets
 - cultural heritage, including architectural and archaeological heritage
 - landscape
- Other environmental concerns:***
- energy efficiency
 - use of renewable and non-renewable resources
 - adaptation to climate change
 - transport demands, accessibility and mobility, etc.

1.23 Thus, the main stages of an environmental assessment include:

- **EIA Screening:** refers to the decision to carry out the EIA, based on national legislation, the nature of the project and the sensitivity of the environment.
- **EIA Scoping:** is the operation used to define the aspects that need to be covered in the EIA study, such as the key environmental issues to consider, time-frame, geographical scope and specific methodologies to be employed. The views and concerns of key stakeholders should be taken into account in defining the scope of the EIA.
- **EIA study:** a baseline study describes the initial state of the environment within the selected boundaries of the study area. It also includes the description of the "no project" scenario, based on assumptions regarding future changes. An important step is the identification and evaluation of environmental impacts. The impacts are defined by the differences between the situation **with** and the situation **without** the project or plan. The identification and evaluation of impacts is necessary for all alternatives under study, in order to compare them and provide recommendations on the selection of the most environmentally sound alternative. It may be decided to undertake a more detailed assessment of a preferred alternative. The last part of the study includes "Recommendations, mitigation/optimisation measures and the Environmental Management Plan". The proposed measures should aim to mitigate negative impacts (mitigation measures) and optimise positive effects. The EIA recommendations lead to an Environmental Management Plan (EMP), specifying the way the proposed measures should be implemented, followed by a monitoring plan.
- **Decision:** based on the EIA, the proposed project or plan, or the selected alternative, can be: approved without changes or conditions; approved with minor changes; subjected to major changes that justify new studies; or

judged unacceptable, even with corrective measures, and therefore refused.

- **Public participation:** participation and consultation of stakeholders must be integrated in this process within the local institutional framework. Particular care should be taken to: (a) make full use of the experience and know-how of the populations living in the environment being studied, and (b) take into consideration the needs, values and interests of the populations concerned, including women and marginalised social groups. Public participation should be provided for from the earliest stages of the process.

The environmental movement

1.24 The [environmental movement](#) (a term that sometimes includes the [conservation](#) and [green](#) movements) is a diverse scientific, [social](#), and [political movement](#). Historically, the movement was connected with the industrial revolution and the large scale pollution it caused. Today, it is represented by a large number of NGOs, ranging from small grassroots groups to large international organisations, aiming to contribute to [sustainable](#) use of natural resources and protection of the environment through changes in public policy and individual behaviour. The movement is centred around ecology, health, and human rights, and has a crucial role in mobilising citizens and raising awareness about environmental issues.

1.25 The **sozo-ecology approach** has been recently developed in Eastern Europe in the context of the young, post-transition environmental movement that is typical of this area. Sozo-ecology (from the Greek word *sozo* – I protect, save, keep alive) is an alternative view of ecology, placing emphasis on the link between the environment and the human body; and taking account of social and economic factors to define this link. The relationship between environment and community health is also studied and documented under this approach.

1.26 Sozo-ecologists claim that disturbances in the relationship between the human body and the natural environment have a destructive effect on people's health, both physical and mental. Although it has been so far impossible to measure precisely the extent to which the degradation of the natural environment has a direct effect on illnesses, it is claimed that this factor, together with quality of nutrition and life style (working and living conditions) influence **human health**. Research in Poland has shown, for example, that environmental pollution leads to an increase in the incidence rate of human illness. Assuming that the normal incidence rate of certain illnesses in a moderately uncontaminated region is 100, the incidence rate in Polish regions which are highly polluted was found to range from 200 to 600 for such illnesses as tuberculosis, bronchitis,

pneumoconiosis, children's rickets and sight defects (Wierzbicki, Z.T. et al, 2008).

1.27 Consequently, it is always essential to consider and calculate two types of environmental impacts: losses to nature and losses to human health. Sozo-ecologists claim that a bio-economic and a bio-medical calculation of impacts should go side by side, to inform policy makers and society of the adverse environmental effects of certain human activity. This approach is linked to a call for a citizens' movement, starting at the local level, which would lead the way towards eco-development, i.e. development that respects the principles of environmental sustainability and the safeguarding of human health.

1.28 Sozo-ecological policies are based on humanitarian principles, pluralism and grass roots democracy. A special feature of these policies is the rejection of a strict cost-benefit analysis when considering decisions for local investment or other economic activity. The term "bio-economic analysis" is introduced, in which natural resources are assigned an economic value, beyond their productive capacity, considering also costs and benefits that affect human health, biodiversity and satisfaction of energy needs through alternative (eco) energy production.

1.29 The sozo-ecology movement, like any other environmental movement, requires a systematic effort for awareness raising among local community members and among policy makers, to promote ecological conscience. Such awareness raising should be combined with capacity building of rural inhabitants (see below). A bottom up approach to development is also linked to the philosophy of the environmental movement in general, implying a strong public participation element in all decisions that concern environmental management and sustainable development.

Capacity building for sustainability action

1.30 Some of the issues raised by sozo-ecology are crucial for strengthening the role of citizens as guardians of the environment and pioneers of its sustainability. Indeed, building the capacity of citizens through education, awareness raising and information, to enable them to take action in favour of environmental sustainability, is gaining momentum. Such action is already pronounced in some European countries (e.g. the Scandinavian countries, UK) with a peak in rural areas, where the threats to the environment are becoming visible and immediate. The role of NGOs is crucial in this respect, both in mobilising the local people and lobbying policy makers. As the three pillars of capacity building we may consider (a) education, both formal and informal, of children and of adults, (b) access to information and (c) networking of organisations with a role for environmental sustainability (see also chapter 6).

1.31 The relatively new and developing concept of education for sustainable development (ESD) was launched to expand the range of environmental education, which has been practiced in most European countries for over two decades. A landmark in environmental education and environmental democracy is the Aarhus Convention, i.e. the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. The Convention establishes the rights of individuals and organisations with respect to decisions that affect the environment. It was adopted in Aarhus in 1998 and entered into force in 2001. 41 countries have ratified the Convention.

1.32 A follow up to the Convention has been the UNECE Strategy on ESD (UNECE 2007a). The strategy was adopted in 2005 at the High Level Meeting of Environment and Education Ministries in Vilnius, Lithuania. It should be noted that a platform of NGOs (the ECO-Forum) played an important role in promoting, drafting and finalising the UNECE Strategy for ESD.

Objectives of the UNECE Strategy for Education for Sustainable Development

The basic aims of the UNECE Strategy for Education for Sustainable Development are to:

- ensure that the policy, regulatory and operational frameworks support ESD;
- promote SD through formal, non-formal and informal learning;
- equip educators with competence to incorporate SD into their teaching;
- ensure that adequate tools and materials for SD are accessible;
- promote research on and development of SD;
- strengthen cooperation on ESD at all levels within the UNECE region.

Source: www.unece.org/env/esd/Strategy&Framework.htm

1.33 The Aarhus Convention recognises the importance of public participation in environmental decision-making, as a way of safeguarding sustainable development. To promote and develop processes of public participation, it is essential to make sure that relevant information is freely available and accessible. New communication and networking tools have reshaped the way information is provided and how it feeds into policy making and implementation, and this is true for the environment as it is for other policy areas. The internet has not only revolutionised access to information and knowledge and facilitated the spreading of ideas, but it has also empowered citizens more than ever before to express their opinions and to be engaged in and influence policies. However, rural areas lag behind in the use of internet in many European countries, especially in southern and eastern Europe, and the “digital

divide” becomes one more obstacle to mobilising rural people through the spread of the necessary information.⁴

Conclusion

1.34 We can observe in our time a good deal of social and political will, including activism at grassroots and global level, as well as a long array of policy statements and regulations aiming to safeguard the environment from harmful human intervention. The rural environment is at the heart of this exchange, as it includes most of the land that comes under natural environment. Rural development depends without doubt on environmental sustainability. Although there is a huge implementation gap between proclamations or policy statements and action on the ground (as already mentioned) it has now become common knowledge that our civilisation is at risk because we have severely affected the ecosystems and overused natural resources.

1.35 The countless policy statements, conventions and international agreements that set the standards for protecting the natural environment, imply a common understanding of what “natural” is. However, most of the environment in the globe has been affected by human intervention and therefore it is difficult to define what is completely natural and what is not. Moreover, the concept of “natural” is laden with philosophical, social and economic meanings, depending upon the expectations society and individuals place upon the environment. This makes the definition of “natural environment”, at least in part, subjective and socio-political. Consequently, the effects of human intervention (regarding, for example, pollution, climate change or loss of biodiversity) are assessed by different societies on the basis of varying standards, which are certainly influenced by social and political assumptions. The United Nations and other international organisations have attempted to set universal standards for environmental assessment, but the application of them at national or regional level has been proved particularly difficult.

1.36 Thus, the damage incurred upon the environment by human activity is often assessed in social, economic and political terms. Often we hear the question “can the economy withstand costly measures for environmental protection?” This certainly involves value judgements about the long-term potential of the environment (and its constituent ecosystems) to contribute to humanity’s welfare and about the sacrifices, efforts and other costs implied in realising such potential.

1.37 There is a need to share our meanings and expectations of the natural environment and our targets for sustainable development, especially the sustainable development of rural areas which is so

⁴ See also *Thematic Guide 2: Information Society and Sustainable Rural Development*.

closely related to environmental sustainability. Citizens' mobilisation, education for sustainable development and information sharing about environmental issues are essential conditions for this.

1.38 The next four chapters of this Guide discuss some of the main challenges to sustainable rural environment. The 6th chapter discusses the need for awareness raising and mobilisation of citizens to safeguard a sustainable environment.

Questions arising from the chapter to reflect on:

1. What is, according to your experience the most important issue of sustainable rural development in your region?
2. Consider the principles of Agenda 21 and try to work out how they can be applied to your local area/region.
3. There are four challenges to sustainable rural development listed in paragraphs 1.11 to 1.14. Try to work out how these apply to your region.
4. If you were asked to apply "community monitoring" in your area, which features of the rural environment would you choose as the subject of monitoring?
5. How is the environmental movement taking shape in your area? Can you list the most influential environmental NGOs in your region/country and give a brief assessment of their work?
6. What would you do to improve the capacity of local inhabitants in your area so that they become "active guardians" of the environment?

Case study 2.1

Rural Climate Change Forum, UK

The Rural Climate Change Forum brings together industry, NGOs and academics to provide a forum for dialogue with Government, as well as authoritative advice and leadership for rural stakeholders on climate change and rural land management.

Summarised below are the major climate change issues as identified by the forum, relating to rural communities, economies and policies. This list aims to guide future discussions about addressing the impacts on different rural sectors.

Agriculture - Agricultural businesses will need to adapt to the effects of changing climatic conditions to ensure economic viability, while at the same time continue to improve sustainable practices to reduce agriculture's impact on the environment and contribution to greenhouse gas emissions. The impact on arable crops, weeds, pests and diseases, grasslands and livestock includes changes in the location of agricultural activities, earlier development and growth, and changed yields and quality of produce.

Water - There are possible implications for implementation of the Water Framework Directive, i.e. what impacts might climate have on the ecological quality of water? There are also potential implications for water demand management, including possible regional differentiation. Also climate change adaptation will need to consider the strong interactions between water resource management, water quality, flood management, and biodiversity strategies.

Soils - Soils need to be considered as a medium for plant growth, as a structural material and a carbon store. We may also need to consider the impacts on the erosion potential (i.e. if climate gets drier / wetter, or if there is more extreme weather, what is affect on soil erosion?). Climate change may also give rise to a decline in organic matter levels in soils, which will have implications for productive and environmental value of soils.

Forestry - A changing climate will increase growth rates of trees in some areas but high temperatures and drought, may adversely affect some species. Greater risks of flooding could lead to more land being used for wet woodland and floodplain forests in some areas. As sources of renewable energy and materials, sustainably managed forests can make an important contribution to reducing emissions from fossil fuels. Woodlands also represent a significant and growing carbon store in biomass and soil.

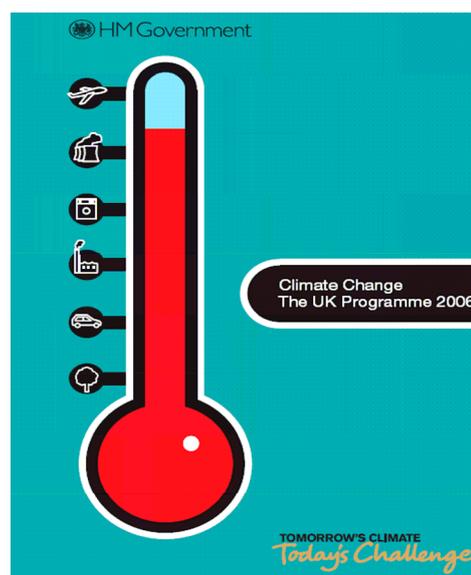
Biodiversity and conservation - Some species may be affected directly as climatic conditions

within their current distributions become less suitable, while some habitats may be affected by changes to hydrological cycles. In addition, climatic changes are likely to increase the range of many native pests and diseases, while others may decrease. The general displacement of wildlife to the north will change the distribution of many species, bringing implications for land management in the wider countryside.

Landscapes Quality - Climate change will have a major impact on the appearance of the landscape as habitats and species change, challenging the current policy focus. There is also a need to consider the future effects of increased coastal and inland flooding in some areas due to sea-level rise, increased storm surges and increased rainfall in autumn and winter. Finally, there is a need to establish "environmental accounting".

Rural Businesses - There may be opportunity for more northern regions to grow early vegetables. Changes could also provide opportunities for recreational resources. However, there are risks such as exacerbated coastal path erosion and increased risk of fire to woods and heaths to consider too.

Local Issues - Often rural issues arise around specific local issues, impacts that affect local way of life, local landscape, local services etc.



Source:

<http://www.defra.gov.uk>

Case study 2.2***"You control climate change" campaign, European Commission***

The European Commission is convinced that the fight against climate change requires the contribution of all sectors of society and all individuals in order to be successful. With the campaign "You control climate change" launched in summer 2006, the Commission sought to raise awareness of climate change, which is one of the greatest environmental threats of our time, and to help interested individuals contribute to limiting it. If all citizens make small changes to their daily routines, significant reductions in greenhouse gas emissions can be achieved which can take some of the pressure off the earth's climate system. While the website is available permanently, the campaign was carried out in three concentrated waves – in June, September and November 2006.

Households are directly responsible for around 16% of the EU's greenhouse gas emissions. Per head and year, each EU citizen is responsible for 11 tonnes of greenhouse gas emissions, mainly CO₂. Most of the greenhouse gas emissions in the EU are caused by the production and use of energy (61%) followed by transport (21%), both of which use fossil fuels (coal, oil and gas) that release emissions of CO₂ when burnt.

Households use almost one third of the energy consumed in the EU, and private cars are responsible for roughly half of the transport emissions, so individuals have a direct influence on these emissions. But they can also help reduce emissions from other sectors such as industry by reducing their waste and making sure it is recycled or composted. E.g. it costs ten times less energy to recycle an aluminium can than to produce a new one. Last but not least, citizens can push for the structural changes needed to achieve a low-carbon society, for example the increased use of renewable energy sources.

"For the Commission action against climate change is a priority," said President Barroso during the launch of the campaign. "This campaign complements and reinforces our political and legislative efforts. It makes clear to which extent we all are responsible for climate change and what individuals can and need to do to limit this threat."

Commissioner Dimas said: "People may say that their individual behaviour does not matter; I say – on the contrary: households in the EU count for a large part of the EU's total greenhouse gas emissions, so each of us has a role to play in bringing down emissions. Our campaign will provide citizens with information about climate

change and their role in combating it. Doing the right thing is not as difficult as it seems."

In cities across the European Union, giant banners went up on public buildings, statues were dressed in the campaign t-shirt, alongside various other events to celebrate the launch. In many cases national governments supported the campaign through various activities. Austria's Federal Minister for Environment Josef Pröll for instance attended a workshop for pupils in the Austrian parliament.

The campaign also used TV, outdoor and newspaper advertising, as well as a range of electronic tools, such as banners and e-mailings, to attract attention. There was a school student element as well – the Europa Diary for 2007-2008, with more than 2.3 million copies distributed throughout Europe included a section on climate change and encouraged students to reduce their personal greenhouse gas emissions by making small changes to their daily behaviour.

Source:

http://ec.europa.eu/environment/climat/campaign/index_en.htm



*Case study 2.3**Jungfrau-Aletsch-Bietschhorn, Switzerland*

The Jungfrau-Aletsch-Bietschhorn area is the most glaciated part of the Alps, containing Europe's largest glacier and a range of classic glacial features such as U-shaped valleys, cirques, horn peaks and moraines. It provides an outstanding geological record of the uplift and compression that formed the High Alps. The area is home to a range of Alpine and sub-Alpine habitats and species. Plant colonization in the wake of retreating glaciers provides an out-standing example of plant succession. The impressive vista of the North Wall of the High Alps, centred on the Eiger, Mönch and Jungfrau peaks, has played an important role in European art and literature. The Jungfrau-Aletsch-Bietschhorn is a World Heritage site.

The problems is that glaciers in eight out of the nine European glacier regions are in retreat. Between 1850 and 1980, glaciers in the European Alps lost approximately one third of their area and one half of their mass, and since 1980 another 20-30% of the ice has melted. Also, during the heat wave of 2003, about 10% of European glacier mass melted. If this trend continues – which is very likely – by 2050, 75% of the glaciers in the Swiss Alps are likely to have disappeared.



A view of the glaciers

More specifically, the Aletsch glacier has retreated 3.4 km since it reached its maximum length (23 km) at the end of the Little Ice Age (nineteenth century). About 1.4 km of this retreat has occurred over the past 56 years. By 2050, it is highly probable that the Aletsch glacier may have shrunk to its smallest size since the late Bronze Age. Indeed, regional climate models show that, for a scenario of doubled atmospheric CO₂ concentrations, the Alps are likely to experience, in

the future, slightly milder winters with more precipitation; but summers much warmer and drier than today. These changes will have important impacts on Alpine glaciers.

Glacier melting in the Alps will affect important European rivers such as the Rhine, the Rhone or the Danube and thus pose a threat to Europe's freshwater supply. In the years to come, discharge from glacier melting will increase – possibly causing more frequent floods. But in the long term, with a widespread retreat of Alpine glaciers, some regions in Europe may face a significant decrease in freshwater supply.

The tourism industry in the Alps is also concerned by the consequences of climate change, although this threat does not have direct influence on the Jungfrau-Aletsch-Bietschhorn World Heritage site. Nominal winter sports activities are said to be 'secured' if an area is guaranteed 100 uninterrupted days of satisfactory snow fall. Today about 85% of ski resorts in Switzerland present a sufficient snow cover. But a 300 m rise of the snow line would reduce this ratio to 63%. In Switzerland about 100,000 jobs rely on tourism, but many of these face an uncertain future in the context of climate change. Adaptation measures to limit glacier melting have been explored in Switzerland. For instance, the Tortin ice field has been covered with a protective 2,500 m² light-blue insulated sheet to reduce glacier melting in summer. This kind of measure can help in stabilizing the glacier in the short term, but this option is not relevant for the Jungfrau-Aletsch-Bietschhorn and it cannot ensure an appropriate conservation in the long term to guarantee that glaciers will be saved for future generations.

Source:

http://whc.unesco.org/documents/publi_climatechange.pdf

Case study 2.4**SAMSØ - A RENEWABLE ENERGY-ISLAND**

In 1997, the Ministry of Energy of Denmark announced a competition: which local area could present the most realistic and realizable plan for the 100% transition to self-sufficiency with renewable energy? The island of Samsø won the competition in October 1997. How did the project and all its visionary ideas fare? Below is an adapted summary of the 10 years of development and evaluation report.

1. Samsø

Samsø has an area of 114 km² and a population of 4100 inhabitants (2008). Agriculture is the island's first business sector and tourism is the second one. The renewable energy projects have also been an important source of jobs during the last ten years.

2. Heating

The share of the total heat production produced by renewable energy (RE) increased from about 25% in 1997-1999 to about 65% in 2005. During this same period, there was a 10% decrease in the heat consumption. Four district heating stations were built, that used straw and wood chips produced by local farmers. Energy campaigns, exhibitions, and advising from energy organisations helped houses located too far from the district heating systems to progressively adopt renewable energy equipment, such as solar heating systems and wood burners. Campaigns about heat savings and energy appraisals were also organised.



Solar panels used for heating as pictured by the Samsø Energy Academy

3. Electricity

11 onshore and 10 offshore wind turbines were installed to compensate the CO₂ emissions generated by the transport sector on the island. Public meetings were an important aspect of this process. However electricity consumption has remained unchanged. The reason is that despite savings and better practices in energy use, homes

have more domestic equipment. A more intelligent consumption should be promoted in the future.

4. Transportation

The initial energy plan from 1997 recommended campaigns for more energy efficient driving habits. A demonstration project showed it was possible to use rapeseed oil for the tractors and rapeseed feed for the cattle. The energy plan was optimistic about the potential of electrical cars, but the market is almost non-existent still, even if the municipality used electrical cars during a short period. The transportation sector on Samsø still relies on oil today. Multiple energy sources (electricity, hydrogen, rapeseed oil), and energy conservation should be promoted and developed.

5. Tourism And Education

Samsø is a tourist island. The ecotourism trend is developing, and many guests come to visit the Renewable Energy Island project. The Samsø Energy Academy plays the role of a showcase for the development project.

6. Environment

The energy consumption has not changed to any extent from 1997-2005 but the energy resources used have changed appreciably.

7. Economics and Employment

The total investment for the renewable energy island projects (about 57 million euros) generated a number of jobs estimated to correspond to 20 years of employment per year in the period 1998-2007. The workers employed were mainly local workers.

8. Conclusion of the evaluation

The project has been deemed almost completely successful. The primary objective has been achieved: 100% self-sufficiency with renewable energy attained using local resources, at the same time totally removing the emission of the greenhouse gas CO₂ and other air pollutants. One of the explanations for this success is the mobilization of the local population and their subsequent adoption of the project. On the other hand, the conservation objectives have not been met in the heating or the electricity sector. Transportation has not been reduced or transformed to renewable energy. The project has been a colossal task for such a small society; and they even finished on schedule. Could the same be done elsewhere?

Source:

<http://www.energiakademiet.dk>

*Case study 3.1**The Rendek eco-farm, Hungary*

This farm, run by the Rendek family, is managed in a sustainable manner with the main goal of keeping the tradition and practices of detached farms alive. The farm was built at the end of the 19th century near Kerekegyháza in the Kinskunság National Park. In principle and in practice the farm is run as an eco-farm, which does not only produce native agricultural products but also serves as a demonstration centre of traditional agricultural practices. The Rendek family is devoted to fostering and handing down the peasant culture to later generations.

For the last 20 years (after the change of political system) the family has been growing autochthonous and alternative plants and rearing autochthonous animals. The farm's structure and system follows the patterns of traditionally subsistence economies. The basis of the farm's functioning is sustainable economy built on an ecological order. The cultivation has two functions: horticulture and field growing. The plants and vegetables grown in the farm are rarities. Today we find very few gardens where almost every kind of cultivated plant typical of a small region, is grown, because most of the farmers become specialized in a certain product. By growing a variety, the eco-farm Rendek promotes the maintenance of biodiversity. Biokontroll Hungária Kht (a non profit organic farm certification system) certifies the farm and the products, which are paprika, carrots, parsley, lettuces, pumpkins and gourds, sweet potatoes and several medicinal herbs. Visitors to the farm may taste the medicinal

herbs and spices, which are offered either as a tea or in other finished foods. Sea buckthorn for example is available in fresh, frozen or treated form. This particular plant strengthens the immune system, and is grown in a one hectare allotment of the farm.

Field growing is mainly used for the rearing of mangalica pigs breed, which provides the economic basis of the farm. For this purpose the farm grows maize, wheat, barley and rye. The mangalica breed has a considerable tradition and significance for rural Hungary. This breed offers excellent meat but it grows very slowly and cannot be kept in closed quarters. Thus it is poorly suited to modern industrial pig farms, and it has been gradually replaced by modern breeds. For decades the mangalica pigs were a threatened breed, but nowadays it represents a national value, since the Parliament issued a decree in 2004 to declare national treasure those Hungarian autochthon breeds, which are now protected.

The operation of the Rendek farm is based on local products and biodiversity; its functioning is in harmony with the sustainable development and promotes traditional farming techniques and practices which are in harmony with its local rural settings.

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Mangalica pigs, at the farm

Case study 3.2**Using conservation to develop new farming outlets in the Rhön, Germany**

In the Rhön (an upland area straddling the German Land of Thuringia, Hessen and Bavaria), hundreds of hectares of abandoned and overgrowing grasslands were restored by two consecutive LIFE projects between 1993 and 2002. These habitats were threatened by too little agricultural use. The strategy of the LIFE beneficiary (Rhön Biosphere Reserve) was to try to keep farmers using this land, or getting them back onto already abandoned land.

For abandoned and overgrown grasslands, the scrub and shrubbery was first removed. After these one-off measures, there was a phase of intensive recurring management (repeated mowing, grazing by sheep) to consolidate the initial clearance. After about two seasons, the land could be integrated back into agricultural use - but as extensively used land (mowing, grazing), under agri-environment schemes. The LIFE project contracted local farmers and shepherds to do this clearing and follow-up work wherever possible.

However, restoration of abandoned grasslands is an expensive and laborious task. Consequently the second LIFE project, initiated an action to try to stop the land being abandoned. In this action, the Reserve and the local agricultural authority worked closely together on identifying the problems farmers were facing and helping them find new and effective ways of managing the grasslands.

A key problem raised by farmers was that property was very fragmented (thousands of plots averaging 0.5-1 ha each) hindering farming. Responding to this concern, the Bavarian Agriculture Ministry in 2002 provided grants to farmers to allow them to swap land between them informally, on a seasonal basis, without having to go through the cumbersome procedures of sale, lease or official rural land consolidation. Other initiatives which came out included organising equipment pools for agricultural machinery and labour pools where farmers can exchange or pool resources; creation of a suckler cow herd, owned jointly by farmers in Fladungen village.

Going beyond agri-environment schemes

To find a socially and economically more attractive basis for this recurring management -than merely agri-environment premia, the Biosphere Reserve, in close synergy with LIFE and other EU funding instruments, launched initiatives in favour of extensive, conservation-friendly use of land.

A good example is the site 'Mittelhut', where LIFE had cleared and restored an area of semi-natural grassland habitat. Because of the size of the restored area, sheep grazing was viable and the



The Rhön uplands

Biosphere Reserve succeeded in persuading an association of five farmers to take up use of this land. The members of the association each took a share in a communal flock of sheep and employed a shepherd to take care of it. This approach was also used in other sites. By the end of the LIFE project in 2002 there were 3,000 sheep grazing large areas of semi-natural habitats in the Rhön.

The Biosphere Reserve went a step further in supporting these farmers. Drawing on LEADER and Objective 5B (EAGGF) structural funds, it carried out a set of infrastructure development projects to organise on-farm slaughter and processing of meat into end products with higher added value, provided sheep stables and cold stores and started up a farm shop to sell the produce directly to consumers. A network of partner companies was subsequently built. Within this network, enterprises would swap products and services. 40 enterprises were members by the end of the LIFE project - farm holdings, hotel-restaurants and product/services providers (e.g. a wood processing firm). As part of this initiative, hotels and restaurants in the network would commit themselves to use only Rhön sheep for their menus.

Best practice summarised

The strength of this LIFE-Nature project lay in the attention paid to the local community, notably the farmers. Without their active participation, long-term maintenance of the restored habitats would be impossible. However, farmers needed a sufficient return to survive in the marketplace and earn a livelihood.

Source:

http://ec.europa.eu/environment/nature/natura2000/management/gp/farming/01case_rhon.html

Case study 3.3

Rural Environmental Protection Scheme, Ireland

The Rural Environment Protection Scheme (REPS), is a Scheme run by the Irish Department of Agriculture, Fisheries and Food and is designed to reward farmers for carrying out their farming activities in an environmentally friendly manner and to bring about environmental improvement on existing farms. The Scheme supports the income of farmers that meet certain rules and measures specified by REPS. Farmers are allocated the subsidy, following an application process.



Quality food production and environment-friendly methods of cultivation are expected from farmers

To be eligible for the subsidy, the farmer must comply with a list of compulsory (minimum) requirements that signify the responsible use and conservation of land and natural habitat, such as to:

- Follow a farm nutrient management plan prepared for the total area of the farm.
- Adopt a grassland management plan that avoids soil erosion, poaching and overgrazing
- Protect and maintain watercourses and wells
- Retain wildlife habitats like woodlands, wetlands and natural and semi-natural vegetation
- Stop using herbicides or pesticides and fertilisers in or around rivers, lakes, ponds, streams and hedgerows, except with specific approval
- Protect any features of historical or archaeological interest
- Maintain and improve the visual appearance of the farm and farmyard
- Become familiar with environmentally-friendly farming practice

The farmer also abides to rules about waste and levels of chemicals used. Farmers who operate in a designated environmentally sensitive area such as NATURA 2000 site, must comply to additional measures and rules.

Further to the standard REPS, the scheme provides additional support to farmers who are or become involved in "priority" areas including:

- Corncrake habitats
- Traditional Irish orchards
- Rearing animals of local breeds in danger of extinction
- Long-term set-aside (20 years) - Riparian Zones
- LINNET (Land Invested in Nature, Natural Eco - Tillage) habitats
- Organic farming

The scheme is underpinned by a series of training courses that farmers and planners are obliged to follow (minimum of 20 hours). In the end, the level of subsidy allocated depends on the size of the farm, its location (for example in a designated area) and compliance to the optional "priority areas" measures.

Through this scheme, the Irish Department of Agriculture, Fisheries and Food aims to promote farming practices and production methods that reflect the concern for conservation and landscape protection. The scheme also endeavours to protect wildlife habitats and endangered species of flora and fauna as well as encouraging farmers to produce quality food in an environmentally friendly way.

Source:

http://www.citizensinformation.ie/categories/environment/agriculture-and-forestry/rural_environmental_protection_scheme



The protection of typical agricultural landscape is a priority of REPS

Case study 3.4

A family-run Organic Farm, Poland

The organic farm, of the Stratenwerth family operates since 1989. In the beginning it covered less than 5 hectares of land, while currently it has expanded to nearly 20 hectares. The farm has always operated in a sustainable manner, using organic farming practises. The special feature of the farm is that its owners were city-dwellers who decided to take up a different way of life. They didn't have agricultural roots, and had little previous experience in agriculture and farming. Despite the initial problems the farm is currently a successful operation and produces cow and goat milk while the land is used for animal grazing and cultivating grain.

Apart from the normal farm work, the family runs a bio-bakery, which produces approximately 1200 loaves of bread weekly, distributed to selected shops in neighbouring towns and in Warsaw. The grain for the bread comes from the farm itself and neighbouring organic farms. The bio-bakery has developed dynamically over the last few years and provides a steady source of income for the family and fellow workers.



This organic farm with its various activities, has set a good example for the whole local community

In 1995 together with other farmers and activists the family established the Ecological-Cultural Association ZIARNO ("Seed" in English). The association is currently running many educational activities in the field of ecology and sustainable development many of which take place within the farm. These activities, targeted mainly to children, attract annually approximately 2500 – 3000 visitors. The children usually come from large cities, and the activities are mostly part of a school trip. During the activities children have the chance to take part in educational excursions to the countryside, including a tour of organic farms and get acquainted to local traditions. During these activities children can bake bread, feed or milk the animals, make wax candles etc.

The ZIARNO association is also active in running educational programmes aimed at adult rural inhabitants. These programmes cover such themes as new technologies in agriculture, rural development and organic farming. The programmes are free for all local people and are mainly subsidised by EU funding. The association also publishes various learning and information materials, including a local newspaper "Wieści znad Wisły" (Vistula news).

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Case study 4.1

Triglav National Park, Slovenia

The Triglav National Park (TNP) is one of the most visited tourist destination in Slovenia. The area includes the well known tourist resorts Bled and Bohinj (both with alpine lakes), beautiful Julian Alps with many mountain paths, alpine houses and huts and skiing places. Other attractions include the Juliana Alpine Botanical Garden in Trenta valley and the Triglav Museum in Mojstrana. The cultural heritage of the Park is represented by the settlements which have their own characteristic rural architecture and churches, while nearby are dairy farms and adjacent alpine pastures. The remains of the ironworks, monuments to both World Wars and a battle from the Napoleonic period (at Predel) can also be found within the Park.

TNP is administered by the Triglav National Park Authority (TNPA). TNPA organizes and hosts a number of activities in the park focused on tourism. The park authority also publishes the "World Under Triglav" magazine and several leaflets and educational material about the park; and organises workshops, lectures, art exhibitions, cultural events, photographic exhibitions, trips and educational tours around the park.

The management board of TNPA is composed by:

- Representatives of 5 Ministries of the Republic of Slovenia (Ministry of Environment and Spatial Planning, Ministry of Culture, Ministry of Education and Sports, Ministry of Regional Development and Ministry of Agriculture, Forestry and Food)
- Representatives of 6 Municipalities in the Park (Bled, Bohinj, Toplmin, Kobarid, Bovec and Kranjska gora)
- Park employees.

The administration of the Park contains five different sectors of activities:

- General sector (administration, book-keeping)
- Nature protection and monitoring
- Technical and research sector
- Information and education
- Hunting management

The TNP has developed its own scientific research institute, which works as an independent body since 1998. The institute collects and assesses the results of the scientific research taking place in the park and stimulates and directs further research of other organisations and individuals. The institute's own research on the local natural and cultural heritage is very important for nature conservation and environmental protection.

The TNP has also developed two Information Centers: one in Trenta (which supports tourism development of the area and provides additional work places) and one in Pocarjeva domačija, in Radovna.

The Information Centre in Trenta together with the local Tourism Association has prepared an innovative tourism programme called "Four easy seasons". The programme's goal is to prepare and advertise tourism products for spring and autumn seasons (the region is mainly a winter destination) in order to increase tourism traffic and prolong the summer season by enriching the available tourism products and activities. A new web portal for the whole valley is also being prepared which will feature a central reservation system for all tourism businesses in the region. The promotion of ecotourism is also considered as a form of sustainable tourism appropriate for protected areas.

Other interesting initiatives of the Park include the volunteer rangers, a group of around 67 individuals who work for the benefit of the Park on a voluntary basis; and the project "Young Rangers" which is based on the park rangers' work with young people, mostly schoolchildren, aiming to entice them to become involved in nature preservation and protection.

Finally a new development in the park is the implementation of an alarm system for natural disasters, which is the first of its kind in Slovenia.

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Visitors enjoy themselves in Triglav National Park

Case study 4.2

Natura 2000 areas: SPAs and SACs in a rural area of Southern Apennines, Italy – an untapped opportunity

Introduction

The Apennines cover a large part of the Italian ground and represent an important element of the country's cultural, biological, economic and social diversity. Much of the Italian Apennines are designated SPAs (Special Protection Areas) and SACs (Special Areas for Conservation) in the context of the Natura 2000 network. According to their designation, SPAs and SACs can contribute significantly to sustainable local development, especially through sustainable tourism. In many cases however entrepreneurs, policy makers and citizens fail to grasp this opportunity.

One such area is Fortore-Alto Tammaro, located in the mid-southern Apennines, in the Benevento province. Like many other rural communities across Europe, it suffers from underemployment, an ageing population and abandonment of agricultural land. This situation has affected the vital elements of the special and unique "rural-diversity" of the area, the so-called "basket of goods".

The Case of Fortore-Alto Tammaro

Fortore-Alto Tammaro has been the focus of a long-run research project, led by CNR-Ibimet (Florence) and carried out in the context of a PhD with the Department for Environment and Territory of the Molise University. The research project (FORTour) aims to calibrate action models for the promotion of sustainable rural development based on the improvement of the local agro-eco-tourism system.

The research so far has shown that tourists tend to visit a rural area on the Apennines for the whole "basket of goods" offered by the location, local culture and natural environment included. Focus groups and interviews, on the contrary, have shown that local enterprises and tourism businesses place importance only to part of this "basket of goods" especially local food and local heritage, completely undervaluing the nature-landscape-environment potential.

The disparity between the kind of tourism people demand and the provision offered by local tourism businesses represents an obstacle for local and tourism development processes and can expose natural areas with a tourism potential to the risk of abandonment and neglect. This conclusion has particular value considering that a big part of the study-area is protected in the form of SPAs and SACs (e.g. Castelvetere in Valfortore forest), yet it is neglected, abandoned and underused.

While assessing the leisure and economic potential of the Fortore-Alto Tammaro Natura2000 areas, the researchers realised that a big part of the local community ignores the development opportunities offered by the protected areas. Many tourism-related entrepreneurs are not aware of their existence; and even local policy makers ignore SAC and SPA areas and do not include them in the allocation of resources for improvements and publicity that would promote the local tourism product. The general feeling for these protected areas is that they are more a hindrance than an opportunity for local development.



The project team consulted the local community in the process of this research

Conclusions

The FORTour project has provided evidence that policy tools developed to be useful for local development (i.e. Natura 2000) do not always achieve their aim, because local communities do not appreciate/understand their potential and do not become an active part of them.

The two main conclusions arising from the FORTour research project can be summarized as follows:

- a) local development processes need local people as active actors (bottom-up processes) in order to be successful.
- b) Information, training and education are important elements in the development process, as a means for raising awareness: development cannot happen if the community does not become the main stakeholder in the development process.

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Case study 4.3

Zona Volcanica de la Garrotxa Nature Park, Spain

The protected areas of Europe have to face the difficult challenge of combining their mission to conserve valuable and endangered natural heritage with the driving forces behind economic development in areas where traditional economic activities have frequently failed.



The Zona Volcanica de la Garrotxa Nature Park serves to illustrate the efforts made by the managers of protected natural areas to show that sustainable development can be truly viable. The park is located in north-east Catalonia and is the best preserved volcanic region on the Iberian peninsula. As tourism started to increase in the region in the early 1990s, managers of the park became concerned about the potential negative impact of uncontrolled development. A viable way forward was found in working together with all the parties involved in local tourism.

A permanent forum

In 1996 the association known as La Garrotxa "Tourists Welcome" Region (AGTAT) was founded. The idea behind this association was to establish an active network for the development of sustainable, high quality, environmentally friendly tourism.

AGTAT is made up of representatives from the public and private sectors and includes, as beneficiaries of its services, 115 private tourist companies, with whom AGTAT members regularly work. "It was never our intention to take the place of the other existing organisations" stresses Josep M. Prats, AGTAT's secretary "but rather to bring them together and coordinate their actions, to give them more weight" (interviewed by the French Federation in 1999 for the publication "The experience of the Pilot Parks").

The association is funded by members' fees and income from services and marketing initiatives. Services provided by AGTAT include the production of leaflets, guides and maps which aim to take visitors to less known sites. The association manages relations with the media and negotiates with tour operators. With the help of external funding it has also published a regional guide on sustainable tourism giving advice to local businesses, and offers a training programme for the tourism sector. The association represents the

"permanent forum" required for on-going consultation with different tourism stakeholders within the European Charter for Sustainable Tourism.

In the course of meetings, seminars and workshops, this forum analysed the strengths and weaknesses of tourism development in the region and started working on the topics highlighted by the Charter, in order to draw up a sustainable tourism strategy and five-year action programme.

The potential gained by linking all tourism sectors under the umbrella of an organised association has become increasingly apparent. Besides the possibilities for joint planning and mutual support, AGTAT itself is recognised as the key body for questions relating to tourism in the region, and has secured a unique position for negotiation with public authorities, funding agencies and other organisations.

Ultimately, the AGTAT network is facilitating on-going improvement in the quality and competitiveness of tourism facilities, whilst taking care of the region's natural capital.



The network managed to introduce sustainable development practices in the area

Source: http://europarc.org/european-charter.org/garrotxa_case_neu.htm

Case study 4.4

Hyypä Valley for a Landscape Conservation Area – the process of acquiring the status through cooperation of the villagers and the authorities

Hyypä Valley is one of the 156 “Nationally Valuable Landscapes” in Finland. In addition to the scenery of wide fields one can admire the traditional yeoman architecture from the late 19th century and the early 20th century.



Landscape conservation areas do not set strict limitations to human activities

In autumn 2005 the Hyypä Village Association started the process of applying for the official status of Landscape Conservation Area as described in the Finnish Nature Conservation Legislation of 1996. In 2006 the Ministry of the Environment in association with Kauhajoki town, started to fund the process of application and hired a project manager to manage the tasks of collecting needed materials, consulting the different interest groups and coordinating their cooperation, and writing the usage and management plan.

The Nature Conservation legislation assigns this status to “preserve and manage a natural or cultural landscape of outstanding beauty, historical interest or other special value”. The status of Landscape Conservation area differs from other nature reserves as it does not set such strict limitations to the human activities in the preserved area. So far only three areas in Finland have the status of a National Landscape Conservation Area.

In Hyypä the reasons for trying to achieve this status have been to preserve the beautiful traditional landscape for the present and future generations and at the same time support the livelihood and prerequisites of good life in the Valley. One more reason to initiate the process has been to protect natural resources like groundwater supplies, wells and rare species and animal populations from human activity.

The inhabitants of Hyypä have been consulted throughout the whole process. The project manager met with the landscape management workgroup tasked to implement the process on a regular basis and held open discussion meetings to inform villagers on progress and seek feedback. As part of the process, the workgroup undertook consultation with the local community regarding what they considered as most significant assets and threats to the Valley. The project manager also interviewed villagers, entrepreneurs, and authorities, and wrote newspaper articles and distributed handouts to local associations and households. In addition to the landscape management workgroup, the project has a steering committee consisting of the representatives of different authorities.



The local community has mobilised to protect and conserve the valley

In March 2008 the process for acquiring the status of a National Conservation Area for Hyypä has reached one major milestone, as the Hyypä Village Association formally submitted the application to Kauhajoki town. In autumn 2008 the decision on designating Hyypä Valley the status of a National Conservation Area is expected from the Ministry of Environment and then the implementation of the usage and management plan can begin.

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Case study 4.5

Local development at the National Park of Dadia-Lefkimi-Soufli in Greece

The National Park of Dadia-Lefkimi-Soufli in Greece hosts an extremely important variety of habitats, conformed by the long-term interaction of humans with their surrounding environment – mixed land uses and extensive cultivations. This explains the exceptional number of birds of prey populations (e.g. the Black Vulture, whose last population in the Balkans is found here, has become the flagship of the area), reptiles, amphibians and others.

The area was initially designated as Protected Area in 1980. The local population at first opposed this new status, as it involved quite hard restrictions of productive activities within the area. This started to change in 1987 when a project run by the Greek government with the support of the EU realised among other activities, the construction of a feeding place for vultures and an observatory for their watching. The feeding place and the observatory provided the impetus for ecotourism and one of the longest-standing bird monitoring programmes in Greece (which still continues), initially promoted by WWF Hellas. At the same time, a hostel was constructed and two local people were hired by the Minister of Environment to manage the feeding site and to monitor the raptor populations. The same two people were later hired by WWF Hellas and are nowadays employed by the Prefecture of Evros.

Until 1990 there was a small number of tourists visiting the area. From 1995 onwards, the numbers started increasing (around 45,000 per year during the last years). During these years (1994-1998) WWF Hellas, in cooperation with the local authorities, supported the organisation and planning of ecotourism. Today a municipal enterprise runs the hostel, a cafeteria and guided tours to the observatory. WWF also funded the creation and operation of an Information Centre for 10 years, whose management was transferred to the National Park Management Authority later. In parallel, the first women's association of the region was created, which was very active in the promotion of traditional products. The population, that once lived from logging, livestock breeding and agriculture (and still does, but not exclusively), gradually adopted the idea of protecting this unique nature as a necessary condition for further development.

However, the whole system seems to have entered a "stand-by" period over the last few years. The designation of the Protected Area as a National Park came in October 2006, after its Management Authority was constituted in 2003. This is a strong indication of the evident lack of strong political will to apply the environmental policies at a national

level, which has affected Dadia Park in various ways. At the same time, the successful implementation of an ecotourism model in the area has not given rise to further initiatives. It seems that the local people did not take advantage of the available opportunities to acquire skills and develop competences in order to deal with new challenges.

Several actions directly related to local development of the area have now been identified by WWF Hellas and need to be implemented. For example, the preparation of action plans for specific economic activities (forestry, agriculture, tourism); the clear designation of responsibilities among the different authorities involved; and the establishment of a coordination mechanism (probably under the National Park Management Authority).

Also it is imperative to retain the core monitoring activities within the protected area (e.g. the periodic monitoring of raptor population dynamics, the recording of human activities, the observation of the changing landscape, etc); the monitoring of potentially harmful economic developments; the operation of the information centre and maintenance of basic information and guiding activities; the implementation of measures for the harmonisation of agricultural activities with conservation goals (promotion of organic farming, establishment of a certification scheme, etc); and the development of an integrated ecotourism scheme that would reduce the dependency of visitor influxes on the operation of the feeding site.



The bird observatory is one of the main attractions of the park

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Case study 5.1

Versatile work and services in nature and the landscape, Finland

Nature and landscape services refer to services related to the management of nature and cultural landscape. In addition to managing protected and diversity areas, these services have a significant role in landscape management, the preservation of cultural heritage sites, and the use of nature for recreational purposes and nature-based tourism. Nature and landscape services can be divided into *nature management services* (e.g. restoring and managing heritage biotopes and built heritage landscapes), *landscape management services* (e.g. management of the green spaces in municipalities and built-up areas) and *services related to the use of nature* (e.g. management of camping and recreational areas).



Expert nature and landscape services will help meet the versatile needs of nature and landscape management.

The demand for services provided by enterprises is increasing

The management of the environment as well as of the sport and recreational services included in municipal duties and services are executed either through municipal resources or through purchasing services from service procurers. Due to cost cuts, acquiring external services is increasing, which also increases the demand for expert services.

Customers purchasing nature and landscape services are primarily municipalities and parishes, public agencies, service companies, environment centres, farmers and forest owners, enterprises, other rural associations, as well as private citizens and projects.

Strengthening the field of operations requires education and development efforts

The work involved in nature and landscape services with their versatile and increasing competence requirements calls for the establishment of a new profession, the professional nature and landscape service entrepreneur.

Different enterprises have so far appeared to fulfil the needs of this field. For the moment, however, the professional field is for the most part quite dispersed and has not been included in statistics. Developing entrepreneurship in this field as a distinct field of operations would also increase the value of nature and landscape management.

In addition to the number and competence of the service providers, vocational education and training as well as short-term education is needed for those operating in the field at the moment or in the future. In Finland, versatile vocational education and training leading to a professional degree is available in the field of nature and landscape services, from basic degrees to further vocational qualifications and special qualifications. The vocational qualifications related to nature and landscape services are mostly included in the field of natural resources and the environment. Short-term education and training for rural entrepreneurs is organised by the Rural Women's association ProAgria in nature and landscape management and the Finnish Road Association in traffic management, among others.

Such education is necessary, for example, to create expertise in specific subjects such as costs and pricing, the management of different types of landscape, quality requirements, the machinery and equipment needed in the work and others. Work with nature sites often requires diverse competences, and this is especially important in small and remote sites.

The development of entrepreneurship in nature and landscape services requires that supply and demand meet, nature and landscape services become better known, and action models for funding are developed and applied. The networking of service providers creates possibilities for fulfilling all the services needed by clients and developing expertise and cost savings. An intermediary organisation would also be beneficial in bringing together the clientele with suitable service providers, in advising on potential funding sources, and organising training and education within the field.

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Case study 5.2

The “Shepherd’s walnut”, an action-model for sustainable rural development based on natural resources and awareness raising

Walnut is a very typical product of the Apenninic rural areas interconnected with local culture and society. The nutritional value of the fruit, the precious wood of the tree and the various uses it lends itself to, makes this tree part of rural-life since ancient times. However, the walnut is today produced only in few specialised areas (with commercial varieties) and completely neglected in many parts of the Apennines. Thus the economical value of the walnut tree is today very underestimated. The case of the walnut tree in the Southern Apennines is yet one more example of how local areas are exposed to a dramatic loss of biodiversity, affecting cultural and landscape features. The question is how to transform biodiversity into an active element of rural development.

The case of the walnut tree and its potential in stimulating development in rural areas has been the focus of a research project promoted by the Italian Mountain Institute which aims to calibrate action models to increase the value of mountain-produced traditional foods. The research considered ways to increase the value of the local walnut, using a model based on the specific features of the territory.



An ancient path of sheep transhumance (i.e. their transfer from one grazing ground to another at the point of changing seasons) in the Tratturo Region was chosen as a “red line” path for the application of the model. The path crosses the Apennines over 120 km from Candela (Apulia) to Pescasseroli (National Park of Abruzzo). Legend has it that shepherds spread walnut seedlings across this path over the centuries. Today the path can also be used as a heritage trail for tourism.

The choice of Tratturo Region plays a significant role in the application of the proposed model: it provides a “physical” basis for the research (in a very wide area); it links different administrative

units (provinces, municipalities, regions) giving the model a strong and strategic role of a shared-territorial action plan; and it represents a strong element for culture, history and identity which can contribute to stressing the value of a traditional product like the walnut. All these factors contribute to defining a sustainable system with good potential for development. But local development also means economy and market; and we need to ask what happens with a product that lacks economic value like the local walnut? To deal with this issue, the proposed model promoted the creation of the “Tratturo-walnut” association that would help realise the agricultural/ local food/ rural tourism potential of the walnut. The goal was to link the walnut with various rural economic activities focused on tourism and walnut by-products, and complement it with other marketable, better known local products (i.e. cheese, bread, sweets, agrotourism).

It is worth noting the change that occurred during the course of the research in the perceptions of local people (farmers, policy makers, shepherds). Interviews and focus groups conducted early on, showed that everyone seemed to be surprised by the “Shepherd’s walnut” idea: sentences like “...we don’t have walnut trees in this area...”, or “impossible to make cheese with walnuts...”, actually, showed the limited awareness of the potential for development and stressed the fact that walnut is today neglected in many rural areas. By the end however, people started to remember where to find walnut trees, or to dig-up ancient tales about the tree, or to describe how to prepare traditional dishes with walnuts.

This highlights the need and value of information, training and exchange of ideas in such a process, because local people, often, do not realize that simple things can play an important role in the development process.

The case-study “Shepherd’s walnut” stands as an action-model that can be applied in other contexts too and one that can contribute to making biodiversity an active element of rural development.

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Case study 5.3

UNISCAPE- The European Network of Universities for the implementation of the European Landscape Convention

During 2006 a group of European Universities agreed to create a co-operation body aimed at contributing to the implementation of the European Landscape Convention (ELC) at European level. In 2007, the representatives of twenty-six universities met at the Medicean Villa of Careggi in Florence (Italy). At the meeting, it was agreed to create UNISCAPE, the "European Network of Universities for the implementation of the European Landscape Convention".



The collaboration of 45 European Universities determined to promote the implementation of the EL can be considered a major input to the ELC.

UNISCAPE is a non-profit association and is currently composed by 45 Members. The role of UNISCAPE is to promote scientific co-operation at European level in the areas of research and teaching, aiming to promote the principles and the objectives of the European Landscape Convention.

The research activities of UNISCAPE focus on the study of landscapes, their evolution and transformations. The teaching activities of the association's members aim to create competencies and skills that may contribute to the implementation of the ELC principles.

UNISCAPE encourages and assists its members to exchange technical and scientific know-how in landscape matters through the pooling of experience and the publication of the results of research projects. The exchange of landscape specialists for teaching purposes is also pursued as

well as the exchange of information on all matters covered by the ELC provisions.

UNISCAPE adopts an inclusive and multi/interdisciplinary approach in order to take advantage of the experiences of its membership. To reinforce this approach, single university bodies (such as university institutes, departments, faculties, research centres, etc.) are encouraged to join UNISCAPE on behalf of their University. Moreover, UNISCAPE cooperates with other Networks already working for the implementation of the ELC.

Source:

<http://www.uniscape.org/>



The teaching activities of UNISCAPE members aim to create the necessary competencies of the effective protection of European landscapes

Case study 5.4

Joint character Areas, U.K

In 1996 the former Countryside Commission (a statutory body related to the public management of National Parks) and the former English Nature (a UK Government agency) with support from English Heritage, produced The Character of England Map. This map combines English Nature's Natural Areas (a project describing the natural environment of England, dividing it in 120 areas) and the former Countryside Commission's Countryside Character Areas into a map of 159 Joint Character Areas (JCAs) for the whole of England. This map (shown below) provides a picture of the differences in landscape character at national level. It is accompanied by character descriptions of each JCA showing the influences which determine the character of the landscape. The Countryside Agency published a set of eight regional volumes describing the 159 JCAs. The JCAs are a widely recognised national spatial framework, used for a range of applications. Examples include the targeting of DefRA (Department for Environment, Food and Rural Affairs) Environmental Stewardship scheme and the Countryside Quality Counts project.

JCAs form part of the data gathered for a Landscape Character Assessment. Landscape Character Assessment is the tool that is used to help us understand, and articulate the character of the landscape. It helps us identify the features that give a locality its 'sense of place' and pinpoints what makes it different from neighbouring areas. Landscape Character Assessment can be used in many other situations, for example, in devising indicators to gauge countryside change, in helping local people prepare Village Design Statements, Parish Plans and Market Towns Health-checks as well as in devising environmental improvement strategies for places undergoing regeneration.

To this end Natural England and Scottish Natural Heritage publish the Landscape

Character Assessment Guidance, which shows how to identify and express the different landscape elements, such as woodlands, hedgerows, moors, mountains and farmland, building styles, and historic artefacts, i.e. all these elements that give a place its unique character.

Source:

<http://www.countryside.gov.uk/LAR/Landscape/CC/jca.asp>



Case study 6.1

The Web Village: an innovative practice in education for sustainable development in Finland

There are 34 agricultural institutes around Finland providing vocational education and training to over 3000 new students every year. These are owned by municipalities or federations of municipalities, private organisations or foundations.

In 2006 the committee on agricultural education and training (excl. higher education) set out to create a development strategy that secures high-quality educational services for the rapidly developing agricultural sector. The project involved examining the educational needs of basic production as well as those of other emerging forms of entrepreneurship based on farming and nature. The aim was to capitalize on existing resources in education, information services, and research - regardless of the administrative sector - by making them work more effectively together in order to serve better the changing agricultural production and new emerging sources of livelihood. This would also maintain the vitality of the countryside.

At the same time the whole education sector in Finland applied a new strategy for sustainable development which set several important goals for building the future on ecologically, economically, and socio-culturally sustainable grounds. Additionally, environmental criteria and certification of educational establishments were developed. The environmental criteria focus on the ecological aspect of sustainable development, but in 2008 they will be extended to cover also the economic, social and cultural aspects. The criteria have been created as tools for the development of operation and quality of teaching. The one important aim in the strategy for sustainable development is that all 34 agricultural vocational education and training institutes should receive an external acknowledgement or certificate for their sustainable development activity by 2010.

The school farm development work was launched in the beginning of 2007. One of the main initiatives undertaken was to join all agricultural institutes, thus forming a network, through the virtual Web Village (<http://www.virtuaali.info>). The Web Village is based on a blended learning methodology (blending virtual and physical resources). In the Web Village the schools describe all the agricultural processes needed to achieve skills in working life, for example milk production,

crop production, beef production, horse management. Through the Web Village, school farms also serve as models to local farmers on how to promote sustainable development. The promotion of sustainable development is based on the openness of school farms: Each school publishes information of inputs and outputs while producing milk, meat, or other farm products. The consumption of nutrients and fertilizers, energy and water in every day life at school farms is measured and displayed at their websites. Thus, everyone can compare which one of the school farms is the most eco-effective in producing milk or meat etc. The school farms use the Web village to learn from each other, share information and display best practice from 34 school farms not only to local farmers but to every farmer who wants to learn from this.



This network model encourages schools to develop their real learning environments in the sector of natural resources, because results can be shared straight away amongst the schools and other interested parties. It also encourages schools to develop innovative tools to showcase their learning environments, i.e., simulations, video clips, photo materials, web cameras, etc. Finally the Web Village model provides the opportunity to show the work and strengths of each agricultural school in a varied way.

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Case study 6.2

Cheshire Landscape Trust: Community Action for Better Landscapes, UK

The Cheshire Landscape Trust is a non-membership registered charity established in 1981. It works at the grassroots level with community groups, including parish and town councils, schools and youth groups to promote landscape awareness and conservation in the County (in North West England) through community action. Its work is based on two very important principles:

- The process and product is owned by those involved – local communities
- The working pace is set by the group members.

In seeking to achieve its aims, the Trust recognises that quality of life is a key factor in building healthy communities and that quality of environment is a part of this concept.

The Trust's work is based on a twin-track approach which consists of (a) practical conservation activities such as tree and hedgerow planting and aftercare, dry-stone walling and the creation of school and community orchards and (b) community based spatial planning activities such as the creation of Village and Town Design Statements and Parish Landscape Statements, these documents, once adopted as Supplementary



Planning Documents by the relevant local authority, become a part of the statutory spatial (physical) planning system and have to be taken into account at all stages of the planning process.

Partnership and networking

Partnership and networking is central to our work and this involves us working very closely with statutory, local, voluntary and academic organisations through Cheshire, the North West of England, nationally and internationally.

One of our most successful partnerships in recent years has been with the University of Manchester School of Landscape & Planning and the Manchester Metropolitan University of Landscape, selected local authorities and community groups to

produce and implement 'Community Landscape Action Plans'.

At the same time we are active members of many networks and groups including the Sustainable Cheshire Forum, where we chair the Land Task Group, Cheshire County Council's Community Strategy Partnership. Regionally the Trust is a member of the North West Rural Forum. Nationally it has links with a number of organisations working in the field of sustainable development, landscape research and practice, for example The Royal Society of Arts Sustainable Development Awards Panel and the Landscape Research Group. Internationally it has work in Greece and the Czech Republic and with the Council of Europe.

Lessons and impact

Based on our experience over 25 years the Trust has created, developed and sustained a key niche in the field of community based environmental education and action. During this time we have found the process and products both satisfying and enjoyable, whilst at the same time being time-consuming. We are also only too well aware that community based action should not be seen as a panacea in all instances.



Nevertheless, the Trust's approach and sound track record of achievement has gained the trust of community groups as well as establishing good relationships with local, regional and national authorities and other NGOs. The Trust's work is an effective illustration of how through a combination of practical action on the ground and community involvement in the statutory planning system enables local people to create, develop and sustain real ownership of their places and communities.

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Case study 6.3

The “Greening Regional Development Programmes (GRDP)”

Every year hundreds of billions of Euros are spent on developing Europe’s regions. This money offers a huge potential to develop the regions in a way that protects or improves the environment, yet many authorities still find this a challenging task. It was in order to unlock this potential that the ‘Greening Regional Development Programmes (GRDP) network’ was created in 2004. The GRDP partners want to promote more effective regional programmes, which deliver sustainable results for local people. The GRDP partnership worked for three years on developing products to help public bodies throughout Europe give full weight to environmental issues alongside more traditional economic and social objectives.

Origins of the GRDP project

The GRDP project was funded by the EU INTERREG IIC programme. It was born from the discussions between a core group of partners from Italy, Austria, Spain, Malta, England and Wales. They discussed their experience of integrating the environment into regional programmes backed by the EU Structural Funds. Although the EU rules governing the use of Structural Funds state that the environment and sustainable development should be at the heart of development programmes, many regions struggle to put this to practice. The GRDP project was designed to help these regions. The project brought together thirty-nine partners. The partnership was very diverse and included local, regional and national authorities, environmental authorities, development agencies and research institutes.



GRDP members organise workshops to familiarise public bodies with “green” strategies

GRDP work and outputs

At the start of the project, the project partners carried out an in-depth audit to identify good practice and practical solutions for integrating the

environment into regional development programmes. The audit also identified case studies that demonstrated how the environment was integrated successfully into Structural Funds and other development programmes. This analysis led to the development of four broad themes on which they worked. The findings of their work were adapted into a range of publications. In 2006, the GRDP partners produced the “Handbook on Strategic Environment Assessment (SEA) for Cohesion Policy 2007-13”, a guide that received a very warm welcome across the European Union.

The two latest GRDP “products” are the Charter and the toolkit called “Beyond compliance: how regions can help build a sustainable Europe”. The GRDP Charter is aimed at all European public organisations. It is a concise list of the main principles of environmental integration into regional development programmes. By signing the Charter, the organisations promise to “work towards more sustainable regional development programmes, to work in partnership and to support green projects”.

The GRDP Toolkit, complete with a CD-ROM of case studies, is designed to assist public sector bodies to integrate green issues and the environment into regional development. It provides a collection of fact sheets, guidance and good practice examples on topics crucial for environmental integration. A guide is included, available in seven languages, which makes practical suggestions on how greater efficiency and cost savings can be achieved through greener programmes and projects. Dissemination workshops have been also organised throughout Europe on the key themes addressed in the Toolkit namely: “The Environment as an Economic Driver”, “Strategic Environmental Assessment”, “Partnership as a tool to green regional development programmes”, “How to green projects”.

Source: Flora Dewar and Julie Verre

Inforegio panorama, no 25, March 2008, p.14-15

Case study 6.4

Awareness raising and possibilities for co-operation in environmental matters on Lohja Lake Islands in Finland

Lohja Lake Islands are located in Southern Finland. There are 450 permanent and 1800 seasonal inhabitants on the islands making up a quite large community. Several initiatives have been carried out over the last decades in order to increase local awareness of the environmental value of the area and especially on what could and should be done to sustain the lake and the landscape in good shape.

The recent history of the area demonstrates the need for increased environmental awareness. In the 1970's and partly in the 1980's people buried part of the mixed waste which could not be burned or fed to animals in the nearest forest and let the wastewaters go directly or through light treatment to the lake. Towards the end of 1980's a communal transport system for household wastes was organised. It was possible to sort paper and glass into separate containers and the rest mixed waste went to one big container. Three small refuse disposal points were organised in the area. People learned to use them and further containers for small metal and batteries were introduced. When building a new house, locals had to build a wastewater treatment unit. But the majority of houses, which were old, still continued to let wastewaters go almost untreated. A welcoming change was that farmers started to think about using more efficiently fertilizers, mainly because of the increased prices, but also to prevent polluting the lake.

In 2002 the first rural development project in this area started. The main activities were to set up a web page for the area and to publish a magazine with local news on rural development and environmental awareness. Two nature paths were created and signposted in order to raise awareness about the rich flora of the area among local inhabitants. Four walking routes were also designed as part of this project. The second project started in 2004. The main activity was nature interpretation along a 18 km-long route through the islands. All trees and bushes by the side of that Lohjansaari path were identified and marked with a sign and a unique number. The

route was named Arboretum road. A guide was published which included a map with the trees and plants followed by a short description of the plants species.



The involvement of the community, has been vital for the success of this initiative

The third project started in 2006 and ended in 2008. It concentrated on treatment of wastewater in the area, according to Finland's Environmental Protection Act and the national Decree on wastewater. In order to assist the local people to adapt to these regulations, the existing situation was surveyed in the entire area, covering 800 households. A map was then created indicating the situation in each household e.g. having a traditional well, drill well or bringing water along, having water closet or dry toilet, having sauna or not. Wastewater events were organised in the Community Hall and several lectures were held on the new Decree and the new technologies on wastewater treatment. This helped local people to understand the Decree and decide how their households could adapt better to it.

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CHAPTER 3.

Sustainable agriculture: at the crossroads of environmental protection and rural development

The role of agriculture in contemporary Europe

3.1 Agriculture is without doubt a traditional rural activity across Europe. Although it is declining in importance, in terms of both employment and wealth generation, it remains significant in terms of land occupation: it accounts, on average, for about 45% of the European land area and in some countries it covers more than 60% of their surface¹. Moreover, agriculture and the food sectors are of major importance to the overall European economy: indeed the EU is the world's largest food producer. The farming sector has a total production worth approximately 323 billion euros and provides the equivalent of 10 million full-time jobs. The food industry, which is closely connected to farming, constitutes a leading sector in the EU, with annual production worth 720 billion euros, i.e. approx 15% of the entire processing industry. Exports of agricultural and food products amount to approximately 62 billion euros per year. Despite this, the land area devoted to agriculture is declining.

3.2 In parallel to its economic function, agriculture has also another role, as a major contributor to Europe's biodiversity: around half of the wildlife species in Europe are associated in one way or another with farmland. This is due to centuries of diverse farming traditions which have resulted in the wide range of rich landscapes we see today. However, as elsewhere in the world, agriculture in Europe has changed dramatically in recent times. Driven by European Union policy aiming to increase productivity, many farms intensified their activities and became highly mechanised. Those who could not compete found themselves increasingly marginalised and many were forced to abandon their land, with equally negative results for biodiversity. Farmland has shrunk dramatically, and the trend for Europe's forests is of equal concern. Indeed most forests are managed today as commercial plantations with only limited biodiversity value, and only 1–3% of the forests in the EU remain natural and unmanaged².

3.3 Apart from its production function, agriculture can also have a positive or negative role in

environmental protection. Although it provides essential services through appropriate management of landscapes and biodiversity, it also exerts significant pressures on natural resources through the consumption of water, the use of chemical fertilisers and pesticides, its influence on soils and water quality, and its emissions of greenhouse gases (leading to global warming).

3.4 Minimising the environmental pressures from agriculture while maximising its positive external outputs is a key challenge for societies throughout Europe. Taking into account that the farming sector is affected by a growing polarisation between intensive commercial agriculture and low-income, less productive farming systems, we can easily understand that the impacts on the environment vary in scale and intensity and may be positive or negative.³

3.5 During the past decades the main agricultural policy objective in all regions was to increase food production. Agricultural yield increased significantly as a result of mechanisation, use of (inorganic) fertilisers and pesticides, installation of large-scale irrigation schemes and cultivation of marginal land. Further technological developments, including crop and livestock breeding, had an impact in some countries. For example, Spain and Romania currently permit the use of certain genetically modified crops and in spite of concerns over the use of genetically modified organisms (GMOs), this trend may become more widespread in the future. At this stage, however, it is difficult to assess the environmental implications of such crops in the wider European area.

3.6 While agriculture can exercise high pressure on the environment, it is also itself subject to negative environmental impacts: air pollution, soil contamination, climate change and urban development strongly affect agriculture. Climate change is at the forefront at present, regarding its impact on agriculture; changes in rainfall patterns, shifts in growing seasons and increasing maximum temperatures have significantly affected production cycles and type of cultivated crops in many European areas (see Chapter 2 for a more detailed discussion). Some countries are considering the option of bio-energy production on

¹ *European Citizens' Panel (2007), Rural Europe: Definitions, Issues and Policies, Belgium*

² *The European Union's Biodiversity Action Plan, halting the Loss of Biodiversity by 2010 and beyond, European Communities, Belgium, 2008*

³ *European Environment Agency, Europe's Environment-the fourth Assessment, Copenhagen, 2007*

farmland, to counteracting climate change, concentrating on short rotation coppicing for heating purposes or the cultivation of oilseed rape for biodiesel production.

The potential for bio-energy production

A recent EEA study analyses the 'environmentally compatible bio-energy potential in Europe' (see http://reports.eea.europa.eu/eea_report_2006_7/en). In the study, EEA developed a number of environmental criteria for minimising additional environmental pressures from bio-energy production. Based on these criteria, the environmentally compatible bio-energy potential for the EU-25 was calculated up to 2030. The report found that the EU-25 could actually produce 190 million tonnes of oil equivalent (Mtoe) of bio-energy per year, in an environmentally viable fashion, by 2010. This could reach almost 300 Mtoe by 2030 — about 17 % of the total annual energy consumption of 1 815 Mtoe in the EU 25 in 2004. However, it is important that the EU manages any proposed rise in the production of bio-energy crops in line with other Community policies and objectives aiming to protect biodiversity and soils and reduce waste. There are also possibilities for synergies between the production of bio-energy crops and the environment. For example, innovative crops, such as perennial grasses as well as short rotation forestry, can combine high yields with relatively low environmental pressures. If managed appropriately, they could also add to the diversity of landscapes and help to reduce soil erosion.⁴

Policy instruments to support environment-friendly agriculture.

3.7 The main policy instrument in the European Union for supporting agriculture is the Common Agricultural Policy (CAP). It has had a significant influence on farming decisions and has recently included a wide range of rural development and agri-environmental policy instruments. The CAP traditionally provided support for agricultural products. However, this is now being gradually replaced by support for rural development. The latter is the main characteristic of the reformed CAP. The guidelines for sustainable agriculture are set by the 6th Environmental Action Programme (6EAP), while important tools used by the European Union to promote sustainable agriculture include the European Agricultural Fund for Rural Development (EAFRD) and its various measures and action plans.

⁴ Pallemmaerts, M, Wilkinson, D, Bowyer, C, Brown, J, Farmer, A, Farmer, M, Herodes, M, Hjern, P, Miller, C, Monkhouse, C, Skinner, I, ten Brink, P and Adelle, C (2006) *Drowning in Process? The Implementation of the EU's 6th Environmental Action Programme Report for the European Environmental Bureau. IEEP, London*

The 6th Environmental Action Programme

3.8 The **6EAP** was formally adopted on 22 July 2002, by a joint decision of the European Parliament and of the Council (Decision 1600/2002/EC); it followed the 5th Environmental Action Programme (5EAP), and a 'global assessment' of its implementation (COM(1999) 543). The objectives relating to sustainable agriculture in the 6EAP are set in the context of those relating to nature and biodiversity: it states that the integration of biodiversity considerations in agricultural policies should be promoted and sustainable rural development and multifunctional and sustainable agriculture should be encouraged. The components of the reformed Common Agricultural Policy (CAP) and the European Agricultural Fund for Rural Development (EAFRD) were designed to meet the objectives of the 6EAP⁵

The Reformed CAP.

3.9 Two key components of the CAP (Regulation 1782/2003/EC), decoupling and cross compliance, appear to be designed to help achieve some of the objectives listed in the 6EAP.

- **Decoupling** means that the direct payment now received by the farmer is unrelated to the level of production. The incentive to maximise the value of direct payments by increasing production has been removed, so that farmers now are expected to be more sensitive to the market. Decoupling is regarded as a tool to encourage less intensive agricultural production, for example by lowering pesticide and fertiliser inputs.
- **Cross compliance** means that farmers must comply with a range of environmental protection standards in order not to risk losing part of, or all of their direct payment. These standards are shaped by existing EU Regulations and Directives relating to the environment, animal welfare and food safety, and a number of new standards relating to 'good agricultural and environmental condition' (GAEC). For GAEC, Member States need to apply standards relating to soil and the minimum level of habitat maintenance. Cross compliance reinforces the implementation of some key pieces of EU environmental legislation including the Birds Directive, the Habitats Directive and the Nitrates Directive.

⁵ Pallemmaerts, M, Wilkinson, D, Bowyer, C, Brown, J, Farmer, A, Farmer, M, Herodes, M, Hjern, P, Miller, C, Monkhouse, C, Skinner, I, ten Brink, P and Adelle, C (2006) *Drowning in Process? The Implementation of the EU's 6th Environmental Action Programme (cited above)*

The European Agricultural Fund for Rural Development (EAFRD).

3.10 The EAFRD (Regulation 1698/2005/EC) encourages integrated rural development through different measures aiming to deal with the social and economic needs of rural communities, as well as the protection of the environment. Environmentally responsible farming and forestry are encouraged through **agri-environment schemes** and **Natura 2000 payments**, both of which can offer substantial protection for biodiversity. The maintenance of traditional farming practices (which are important for biodiversity) can also be promoted through payments to farmers in mountainous areas, or with other natural handicaps. The 'LEADER' approach also continues through EAFRD, where the focus is on bottom up, community led initiatives, and their role in promoting sustainable endogenous development.

3.11 The Organic Farming Action Plan, encourages the development of the sector through existing rural development measures and the market rather than through direct product subsidisation. The implementation of the Plan depends largely on the options of national policy in the member states. Indeed, the emphasis placed on organic farming since 2002 seems relatively weak as the share of the sector currently represents just 3.6 per cent of the EU's utilised agricultural area. However, organic farming has become one of the most dynamic agricultural sectors in the European Union, growing fast. Many believe that organic farming is well suited to the small farm, satisfying the need for high quality standards of products. Organic farming has yet to be understood as an integral part of sustainable agricultural production and a viable alternative to more traditional approaches to agriculture. Environmental, energy and health benefits, along with benefits in terms of agricultural employment, indicate that this solution could be possible on a global scale.

3.12 Agri-environment measures are designed to encourage farmers to protect and enhance the environment on their farmland. It provides for **payments to farmers in return for a service** – that of carrying out agri-environmental commitments that involve more than the application of usual good farming practice. Agri-environment payments are co-financed by the EU and the Member States with a contribution from the Community budget of 85 % in Objective 1 areas and 60 % in others⁶.

3.13 Agri-environment measures may be designed at national, regional **or local level** so that they can be adapted to the particular farming systems

⁶ European Commission, (2005), *Agri-environment Measures. Overview on General Principles, Types of Measures, and Application. Directorate General for Agriculture and Rural Development, Unit G-4 - Evaluation of Measures applied to Agriculture, Studies, Brussels*

and environmental conditions, which vary greatly throughout the EU. Agri-environmental measures are diverse, but broadly speaking, one could say that each measure has at least one of two broad objectives: **reducing environmental risks** associated with modern farming on the one hand, and **preserving nature and cultivated landscapes** on the other hand. From its early days as an optional measure, agri-environment has developed into a key part of Rural Development Policy, being now the only compulsory measure for Member States in the Rural Development Plans.

Agri-environment Measures included in Rural Development Plans

Measures related to productive land management

- a) Input reduction: reductions in fertilisers and plant protection products.
- b) Organic farming.
- c) Extensification of livestock (as opposed to intensification)
- d) Conversion of arable land to grassland and rotation measures.
- f) Actions in areas of special biodiversity/nature interest.
- h) Maintenance of existing sustainable and extensive systems.
- i) Farmed landscape: maintaining farming systems which lead, as a side effect, to characteristic landscapes.
- j) Measures for reduction of water use and preservation of water resources

Measures related to non-productive land management

- a) Set aside
- c) Maintenance of the countryside and landscape features.
- d) Providing access for the public to agricultural land of environmental interest.

3.14 As farmers specialise and develop new products so their environmental management tasks will become more demanding. This raises the importance of environmental training and advice given to farmers, so that they build their capacity to implement environmental standards correctly and minimise the future environmental effects of agriculture on the environment.

Achievement of the European Union's environmental objectives

3.15 Evaluation has shown that although the objectives of the 6EAP have not been fully achieved, progress has been made in the right direction. There is still some doubt as to whether the policy tools of CAP and EAFRD have the

potential to meet the requirements of the 6EAP in a satisfactory way. For example, it has been argued by environmental stakeholders that the 2003 CAP reform has not sufficiently shifted European agriculture to a more sustainable future. One longstanding argument is that a greater proportion of funds currently allocated to direct payments to farmers should be transferred to the EAFRD, so that farmers receive payments for the production of public goods. Moreover, few Member States have opted to disconnect direct payments to farmers from production levels. Others have argued that existing Regulations or Directives, or the remit of 'good agricultural and environmental condition' are not sufficient to enforce environmental protection in farming practices. Also, although the spirit of EAFRD and organic farming policy appears to comply with the objectives of the 6EAP implementation is at a relatively early stage and conclusions cannot be drawn before the Programme expires in 2012.⁷

Land and landscape: Monitoring the impact of agriculture on the landscape

3.16 As already discussed, over the last three decades a major change has taken place due to technological progress in agriculture and developments in agricultural policies. Changes in farming practices have led farmers to free themselves of the constraints imposed by the natural potential of the land. In addition, the incentives provided by the CAP (see above) profoundly changed the rural landscapes: ploughing up grasslands, clearing hedgerows, increasing the size of fields and leading to a general loss of diversity.

3.17 Rural landscapes are marked by natural and manmade objects, including fields, types of crops grown, habitats, monuments, various buildings and structures and lines of communication. They are highly valued for the "natural" impression they make. Geographers have developed a model to describe the "landscape system". Through this systematic approach, it is possible to define **landscape indicators** for measuring the impact of agricultural and/or environmental policies on the landscape. The indicators developed so far only deal with the "object landscape" which can be measured with quantitative variables. Four "levels" of such indicators have been developed by Eurostat:⁸

- *Geophysical characteristics of landscapes (basic level)*. This basic level takes into account the biophysical characters of the environment (climate, soil, terrain), while it is pointed out that care must be taken not to

⁷ European Environment Agency, *Europe's Environment-the fourth Assessment, Copenhagen, 2007*

⁸ Vidal Claude (1999), *From soil to landscape: a fundamental part of the European Union's heritage*, (Eurostat) European Commission, *Land and landscape: A close relationship*

Measures for protected areas included in the Slovenian Agri-Environment Programme

The Slovenian agri-environmental programme (SAEP), started in 2001, was developed with the aim to promote agricultural production compliant to the consumers' demands as well as preserve human health, assure sustainable utilisation of natural resources and support the conservation of biodiversity and characteristics of the Slovenian landscapes, with a particular emphasis on the environmental component. Farmers in protected areas can get higher amounts of payments to implement the measures of the Programme. The measures are divided in three main groups :

- *Group I*: Decreasing of negative impacts (soil erosion, use of pesticides and mineral manures, intensive production, production of monocultures instead crop rotation etc.) of agriculture on environment;
- *Group II*: Preservation of nature, biodiversity, soil fertility and traditional cultural landscape;
- *Group III*: Maintenance of protected areas.

The main requirements for beneficiaries are the following:

- Minimum acreage of agricultural land unit of the same use is 0.1 ha, except if otherwise required for a particular measure.
- By signing the agreement, a beneficiary eligible for payment undertakes the obligation to continue to implement the agri-environmental measures for a period of 5 years, in accordance with the set eligibility criteria.
- In implementing the measures, the beneficiary is bound to comply with the principles of good agricultural practice and good management practice⁹, i.e. comply with all the applicable agricultural regulations as well as environment protection, health care and veterinary medicine regulations, and shall furthermore discharge all other regulatory provisions in force at the time of the beneficiary's admission into the scheme.

mix up landscape with biotopes or ecosystems.

- *Land uses and their changes (first level)*. Land use indicators do not refer directly to landscapes, but help to form an initial picture of them. The indicators proposed by Eurostat include, for example: the proportion of fields, forests, "green" areas, "natural" areas, areas forming an open landscape by comparison with the total area of the territory, but also the share of arable land and permanent grasslands compared with the total agricultural area and the total area of the territory. Changes in land use are also important indicators in landscape terms: they measure changes from "natural" zones (forests, wetlands etc.) to agricultural use. This allows an evaluation of the

⁹ Principles are published in *Rural Development Plan of the Republic of Slovenia 2004 -2006*.

importance of agriculture in the landscape, establishes whether agriculture is gaining ground or not and measures the impact of urbanisation, the advance of afforestation and infrastructures.

- *Types of land cover and their changes (second level).* The analysis of the main types of land cover makes it possible to highlight the uniformity or diversity of the landscape; and assess biodiversity and wild habitats. At this level, the indicators describe the landscape more fully. They allow for an evaluation of the parcelling-out of the landscape (size of strips, variety of crops, mosaic between cultivated parts and semi-natural habitats); the scale of linear structures in the landscape (high voltage power lines, motorways, railways, rivers, canals, roads, tracks, hedges); the presence of particular items in the landscape (hillocks, ruined farms, etc.); the presence of biotopes and/or very characteristic features (ponds, isolated trees etc). The changes of the above elements over time is essential for monitoring impacts from different types of policies.
- *Objective elements in the landscape which have a strong impact at the level of the perception which the user will have (third level).* This level represents a "qualitative leap" compared with the first two levels in that these indicators try to assess the quality of landscape and the link between it and the land cover by direct and/or indirect approaches. This level, which is very interesting, is the most difficult one to capture. Only limited work has been undertaken, and that on a local scale.

Sustainable agriculture "on the ground": the current picture

3.18 Farming activities are dependent on the capacity of the land, frequently assumed by farmers to be in inexhaustible supply allowing growth in production. On the other hand, from an environmental point of view, land must be considered as a non-renewable resource because of its very slow process of formation. Land is affected simultaneously by physical, chemical and biological deterioration, in addition to the damage caused by urbanization. Agricultural activities may contribute to this deterioration, alongside other human activities, such as industry, urbanisation, road building etc, combined with demographic pressure and climate change.

3.19 Increased concern on environmental issues and food safety and quality, have brought forward the need for agricultural production systems that can not only produce safer products but is environmentally sound too. Sustainable agriculture has been defined as "*..the management and conservation of the natural resources, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations*"¹⁰.

3.20 At present, the integrated crop management and organic farming are the main representatives of sustainable agriculture. The former is based on the knowledge frame of conventional agriculture and targets high yields and productivity in the international markets. It utilizes a rational management of inputs to minimize negative effects on soil, water and air quality. The latter is a holistic approach that targets optimization of production (not achieving any maximum) and includes an ecological frame which is governed by international standards, rules and legislation. Both systems currently face problems of actual implementation and often fail to deliver their expected environmental and marketing value.

¹⁰ FAO (1989)

Questions arising from the chapter to reflect on:

1. Can you find out what the impact of the CAP has been on agricultural production in your country?

Notably, has food security, in terms of quality and quantity, been reinforced? Has it become more sustainable? Has production been guaranteed and diversified, reflecting the diversity of rural Europe?

2 Has your country supported the development of organic farming? How?

3 Has your country accepted the development of GMOs? What is your opinion on this?

4 To what extent have the objectives of the 6th Environmental Action Plan been achieved in your country/region?

5 Is there a mentality of environmental "stewardship" among farmers in your country? How could one spread such mentality more widely?

CHAPTER 4.

Protected areas: Challenge and Opportunity for Rural Development

Definitions

4.1 Protected areas have been the centre of interest for many decades, and the subject of various overlapping definitions. Thus, the Convention on Biological Diversity (CBD)¹ defines a protected area as:

"a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives."

IUCN, the International Union for Conservation of Nature², defines protected areas as:

"areas of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means."

4.2 The protected areas in Europe are estimated to be around 40,000 (*European Commission, 2002*). Most are designed to protect habitats or species under threat. The level of protection varies from strict nature reserve managed mainly for science or wilderness protection to more flexible resource areas or buffer zones where the emphasis lies on sustainable use. The majority of protected areas are relatively small, covering 1000ha or less, forming a complex tapestry of valuable nature sites across the European territory.

4.3 Over the last 40 years there has been a shift in the role of protected areas from national parks and reserves to a broader approach, including sustainable use areas. Currently, it is recognized that protected areas contribute, alongside their conservation function, to human welfare, poverty alleviation and sustainable development. The services and goods that protected areas provide include, for example, protection of species and genetic diversity; maintenance of ecosystem services, such as watershed and storm protection;

carbon sequestration³; products for the livelihood of local people (such as improvement of fishery and forestry yields); and other socioeconomic benefits, such as those related to tourism and recreation.

4.4 Protected areas receive usually a variety of designations, some of them international and some national. The well-known *Ramsar Convention on Wetlands*, signed in 1971, is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. There are presently 158 Contracting Parties to the Convention, including 1757 wetland sites. The European Union established the *Natura 2000 network* of protected areas, under the 1992 *Habitats Directive*, expecting member states to draw up their national lists of Natura 2000 sites accompanied by appropriate designations. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats by defining Special Areas of Conservation (SAC) designated by Member States under the Habitats Directive; it also incorporates Special Protection Areas (SPAs) which are designated under the 1979 *Birds Directive*.

4.5 IUCN has developed a system of six management categories for protected areas:

- strict nature reserve or wilderness area,
- national park,
- natural monument,
- habitat/species management area,
- protected landscape/seascape,
- managed resource protected area.

National designations of protected areas vary, the most usual of them being the National Parks and Areas of Outstanding Natural Beauty. An example of the variety of designations that can be granted is provided by the designation system in England and Wales: it includes, besides National Parks and Areas of Outstanding Natural Beauty, Heritage Coasts, National Trails, National Nature Reserves and Sites of Special Scientific interest.

Biodiversity

¹ The Convention on Biological Diversity (CBD), adopted in 1992 and currently holding the membership of 188 Parties (187 countries and the European Union) is the most important international legal instrument addressing protected areas, and supporting and fostering national and multilateral efforts in a comprehensive manner.

² IUCN is the world's oldest and largest global environmental network - with more than 1,000 government and NGO member organizations, and some 10,000 volunteer scientists in more than 160 countries. It supports scientific research, manages field projects all over the world and brings governments, non-government organizations, United Nations agencies, companies and local communities together to develop and implement policy, laws and best practice.

³ Plants and other organisms that use photosynthesis to remove carbon from the atmosphere by incorporating it into biomass and releasing oxygen into the atmosphere. The process by which carbon dioxide sinks (natural and artificial) remove CO₂ from the atmosphere is known as carbon sequestration.

4.6 Globally, the number of protected areas has been increasing significantly over the last decade, and there are now more than 100,000 protected sites worldwide covering about 12% of the Earth's land surface, making them one of the Earth's most significant land uses. However, while the number and size of protected areas have been increasing, their biological diversity is decreasing. Biological diversity - or biodiversity- is one of the key terms in conservation, defined as

"the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems" (Convention on Biological Diversity, www.cbd.int).

The main habitats contributing to Europe's landscapes

Along with land use and human activity, habitats are a key contributor to both the character and biodiversity of landscapes, and they also help define distinctive landscape features and functions. Habitats include, for example:

- Grasslands
- Heathland
- Woodland, wood-pasture and Parkland
- Arable, orchards and hedgerows
- Open waters
- Wetlands
- Inland rock
- Urban and brownfield land
- Coastal marine

4.7 Europe hosts a unique set of natural diversity, including hot spots like the Mediterranean. However, biodiversity loss has accelerated to an unprecedented level in Europe: some 42% of European mammals are endangered, together with 15% of birds and 45% of butterflies and reptiles. The Arctic fox, the Iberian lynx, native squirrels are all under serious threat. According to the European Commission (2005), ecosystems have an intrinsic value: they provide emotional and aesthetic experiences, offer outstanding opportunities for recreation, clean our water, purify our air and maintain our soils. They also regulate the climate, recycle nutrients and provide us with food. They provide raw materials and resources for medicines and other purposes. They actually form the foundation on which we build our societies. In recognition to the importance of ecosystems, many countries established their national biodiversity plans, following the signing of the Convention on Biological Diversity at the 1992 Rio Earth Summit.

4.8 Although established to safeguard biodiversity, many protected areas are not effective in

conserving their precious ecosystems for a number of reasons⁴:

- There are not enough financial and technical resources to develop and implement management plans.
- Scientific data and information for management decisions, including information on the impacts of resource use and on the status of biological resources, are not available.
- There is not enough public support, coupled with unwillingness of users to follow management rules.
- There is little commitment to enforcing management rules and regulations by national and local authorities, resulting to unsustainable use of resources within protected areas e.g. unauthorised human settlement, illegal harvesting, unsuitable forms of tourism, invasive alien species).
- There may be negative impact from surrounding areas, including pollution and overexploitation.
- There may be poor governance or lack of clear organisational responsibilities for management and absence of coordination between agencies with responsibilities relevant to protected areas.

EU policy on biodiversity

4.9 In May 2006 the European Commission adopted the "Communication on Halting the Loss of Biodiversity by 2010 – and Beyond". Followed by a detailed Action Plan, it set out a detailed agenda for action to halt the loss of biodiversity in Europe by 2010. The communication proposes 10 priority objectives, tackled in the Action Plan under four policy areas: (1) conserving and restoring biodiversity in the EU; (2) placing the EU in from of the global biodiversity issues; (3) supporting the adaptation of biodiversity to climate change; and (4) strengthening the knowledge base for conservation and sustainable use of biodiversity. (see box below). The Communication also recognises the need for four supporting measures relating to adequate financing, strengthening EU decision-making, building partnerships and promoting public education, awareness and participation. In a more recent Communication adopted in February 2008, the European Commission proposed to improve and streamline the European system for collecting, analysing and reporting environmental information by establishing a Shared Environmental Information System (SEIS).

4.10 The centrepiece of EU nature and biodiversity policy is Natura 2000, which established the conditions for designating protected areas in all member states. The aim of the Natura 2000 network of natural sites is to protect and manage vulnerable habitats and species across their natural range in Europe. Natura 2000 is however

⁴ These issues were discussed at length at the Vth World's Parks Congress, held in 2003 in Durban, South Africa, and reviewed in CBD Technical Series No 15.



THE EU BIODIVERSITY ACTION PLAN

POLICY AREA 1: BIODIVERSITY IN THE EU

- Objective 1: Safeguarding the EU's most important habitats and species 8
- Objective 2: Conserving biodiversity in the wider EU countryside 10
- Objective 3: Conserving biodiversity in the wider EU marine environment 14
- Objective 4: Integrating biodiversity into land-use planning and development 16
- Objective 5: Reducing the impact of invasive alien species 18

POLICY AREA 2: THE EU AND GLOBAL BIODIVERSITY

- Objective 6: Strengthening international governance 20
- Objective 7: Strengthening support for biodiversity in EU external assistance 20
- Objective 8: Reducing substantially the impact of international trade 20

POLICY AREA 3: BIODIVERSITY AND CLIMATE CHANGE

- Objective 9: Supporting biodiversity adaptation to climate change 22

POLICY AREA 4: THE KNOWLEDGE BASE

- Objective 10: Improving our knowledge base

not merely a system of strict nature reserves where human activities are systematically excluded; rather, it fully recognises that human beings are an integral part of nature and the two work best in partnership with one another. Indeed, many sites in the Natura 2000 network are valuable precisely because of the way they have been managed up to now.

4.11 The establishment of the Natura 2000 network is a major achievement. As the designation process nears its conclusion, attention now turns towards the management of the sites. Within six years after their nomination as sites of Community importance, Member States should designate these sites as

An example of Biodiversity Strategy: England

The England Biodiversity Strategy was published in October 2002, bringing together England's key contributions to achieving the 2010 target to halt biodiversity loss. An explicit aim of the strategy is to deliver the UK Biodiversity Action Plan in England. It seeks to make biodiversity part of the mainstream of people's thinking and emphasises that healthy, thriving and diverse ecosystems are essential to everybody's quality of life and wellbeing.

The Strategy has five themes:

- Protecting the best wildlife sites
- Promoting the recovery of declining species and habitats
- Embedding biodiversity in all sectors of policy and decision making
- Enthusiating people
- Developing the evidence base

Special Areas of Conservation (SACs) and adopt conservation measures involving appropriate management plans. Further measures are also expected to be taken which correspond to the ecological requirements of the specific natural habitats and the species of Community interest included in them.

Management of protected areas

4.12 Management of protected areas is part of their designation and included in their definition (see paragraph 3.1). For example, for the sites designated in the context of the Natura 2000 network, Member States are expected by the European Union to produce and present a management plan within a set time, as mentioned above. The management of protected sites means working closely with the landowners and stakeholder groups in or around each individual site in order to agree on the most appropriate ways to conserve the species and habitats whilst respecting the local socio-economic and cultural context. Natura 2000 promotes integrated management approaches, which should be interdisciplinary and in line with the multifunctional character of the sites. The management plans are expected to build on solid knowledge of ecological, social and economic processes and define opportunities and priorities with a view to achieving both the conservation objectives of the sites and sustainable socio-economic development. Over the years, a large variety of approaches and a considerable amount of experience have become available regarding the management of different types of Natura 2000 sites in a sustainable way. Exchange of information, experience and good

practise among Member States and regions has an important role to play in improving management of protected sites, as shown in www.natura.org.

4.13 It is worth noting the "Ecosystem Approach" (Haines-Young, R. and Potschin, M. 2007) which has been widely promoted as a framework for managing environmental systems and for achieving the goals of sustainable development. The Ecosystem Approach emerged as a discussion focus among those concerned with the management of biodiversity and natural resources in the late 1980s and early 1990s. It aimed to tackle the limitations of traditional approaches to resource management, based on the argument that integrated management at a landscape-scale, with more decentralized decision making and public participation, could achieve robust and sustainable outcomes. Much of the recent interest in the Ecosystem Approach can, however, be traced to the influence of the Convention for Biological Diversity (CBD), which in 1995 adopted it as the "primary framework" for action (IUCN, 2004). Following Maltby (1997), the ecosystem approach is defined as "a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way, and which recognises that

people with their cultural and varied social needs, are an integral part of ecosystems".

4.14 The programme of work on protected areas put together by IUCN in the context of CBD, based on the ecosystems approach, consists of four interlinked elements mutually reinforcing and cross-cutting in their implementation. Although only the first element relates explicitly to site planning and management, it forms an essential precondition for achieving the overall objective of the programme of work. The four programming elements are:

Programme element 1 "Direct actions for planning, selecting, establishing, strengthening and managing protected area systems and sites"; it includes integration of protected areas into the larger landscape and seascape, and into various sectors of planning; strengthening collaboration between countries for transboundary protected areas conservation; improving site-based planning and management; and preventing the negative impacts of key threats to protected areas.

Programme element 2 "Governance, participation, equity and benefit-sharing"; states the importance of increasing the benefits of protected areas for indigenous and local communities and enhancing the involvement of indigenous and local communities and relevant stakeholders.

The Principles of the Ecosystem Approach*

1. The objectives of management of land, water and living resources are a matter of societal choice.
2. Management should be decentralised to the lowest appropriate level.
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
4. Recognising potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should:
 - a. Reduce those market distortions that adversely affect biological diversity;
 - b. Align incentives to promote biodiversity conservation and sustainable use;
 - c. Internalise costs and benefits in the given ecosystem to the extent feasible.
5. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the Ecosystem Approach.
6. Ecosystems must be managed within the limits of their functioning.
7. The Ecosystem Approach should be undertaken at the appropriate spatial and temporal scales.
8. Recognising the varying temporal scales and lag-effects that characterise ecosystem processes, objectives for ecosystem management should be set for the long term.
9. Management must recognise that change is inevitable.
10. The Ecosystem Approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
11. The Ecosystem Approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
12. The Ecosystem Approach should involve all relevant sectors of society and scientific disciplines.

*Adopted by The Conference of the Parties to the Convention on Biological Diversity at its Fifth Meeting, Nairobi, 15-26 May 2000. Decision V/6, Annex 1. CBD COP-5 Decision 6 UNEP/CBD/COP/5/23

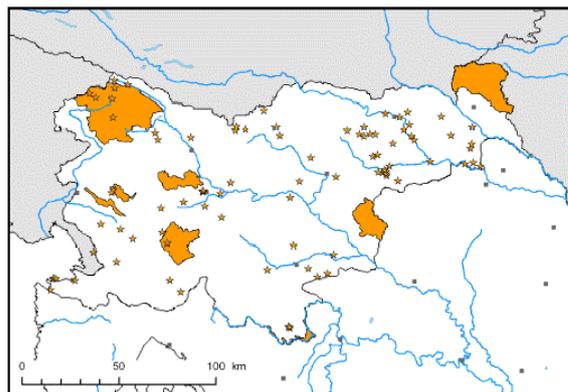
Programme element 3 "Enabling activities" is about creating an environment that will ensure successful implementation of the other programme elements. It includes introducing policies and institutional mechanisms; building capacity for the planning, designation, establishment and management of protected areas; applying appropriate technologies; ensuring financial sustainability; and strengthening communication, education and public awareness.

Programme element 4 "Standards, assessment and monitoring" addresses the need for political leaders and site managers to put in place systems to assess and monitor the effectiveness of their protected area systems. To do so requires a set of standards and criteria against which to measure the effectiveness of management, a system for evaluating the effectiveness of management interventions, and ongoing monitoring of status and trends of both protected areas themselves and the biodiversity that they contain.

4.15 Managing a protected site is not however without problems, especially in countries with little or recent experience on the subject. Slovenia, for example, has over the past decade designated a significant number of protected sites, including one National Park, 3 Regional Parks, 43 Landscape Parks, 49 Natural Reserves and 623 Natural Monuments. Moreover, 6 new Regional Parks and 4 new Landscape Parks are proposed (see Figure 1). National Parks are currently preparing their management plans, and the following problems have been identified by experts, to be taken account of (Anton Perpar and Andrej Udovč, 2008):

- The establishment acts of the National Parks are not fully in line with the Nature Conservation Act.
- There is a lack of finances for managing the Parks, coupled with scarcity of working force and problems with the appointment of staff.
- There are very scarce resources, both financial and human, for publicity and awareness raising activities, including appropriate education programmes, for field equipment, infrastructure, subsidies and incentives for buying land.
- The current system of spatial planning and development planning does not serve the aims of protected areas.
- There is no unified system for monitoring and inspection of protected areas, or the inspections are inefficient.
- Insufficient communication with local communities and individuals in protected areas creates additional problems in the management process.
- "Black building" is taking place unobstructed, i.e. building of second homes without planning permission.

Figure 1. Protected areas in Slovenia



Productive land uses in protected areas

Agriculture

4.16 Agriculture provides essential services to human society through the production of food and biomaterials, rural employment and the management of landscapes and biodiversity. According to the European Environment Agency (2007) the historic impact of agriculture on landscapes and biodiversity has been positive, but modern, intensive agriculture is often a threat to biodiversity. Agriculture may have a negative influence on the environment through pollution of resources such as air, water and soil and through its impact upon biodiversity, landscapes and global warming.



Unique and ingenious method of storing wood in mountainous areas of Slovenia

4.17 According to FAO, encouraging sustainable management of agriculture and forestry within and around protected areas can reverse the trend of negative influence on vulnerable environments, while allowing local residents to secure their livelihoods from the protected lands. Creating a link between protected areas and local livelihoods, requires measures to support investment in sustainable productive activities (Nadia El-Hage Scialabba and Douglas Williamson, 2004). Such activities may include organic agriculture, sustainable forest management as well as agriculture-based ecotourism by:

- replacing polluting agricultural practices with approaches that can reverse the dramatic trends in biodiversity loss;
- promoting market-based incentives that compensate farmers for their stewardship efforts, thus maintaining their economic viability;
- thriving on community participation in land conservation.

Farming measures beneficial for wildlife

1. Leave a strip of uncropped, unfertilised land at the field margin or along water courses
2. Introduce mowing to encourage rare wildflowers
3. Reduce levels of pesticide and fertiliser use
4. Avoid ploughing or harvesting at times of the year when species are raising their young
5. Adjust grazing regimes to encourage a mosaic habitat structure and prevent the effects of over or undergrazing
6. Recreate small ponds
7. Use spring sown cereals such as oilseed rape, kale...
8. Adopt rotational farming with mixed crops such as alfafa
9. Adopt a centre out mowing method to flush out wildlife
10. Leave untreated winter stubble on the ground

Source: *Nature 2000: Conservation in Partnership*, published by the European Commission, 2005.

4.18 In the EU, the Common Agricultural Policy (CAP) which had a significant influence on farming decisions, is now including a wide range of rural development and agri-environmental policy instruments, aiming to encourage farmers to become "guardians" of the environment (see also chapter 3). Several Member States and regions have given priority to protected sites (belonging usually to the Natura 2000 network) by co-financing special agri-environmental measures. Moreover, demonstration projects co-financed under Life-Nature have been used to determine the farming practices best suited to maintaining or even enhancing the natural value of protected sites in terms of the habitats or species that need special protection.

4.19 Accordingly, farming and protected sites have a lot to gain from coexisting on the same land:

- The sites are farmed in a way that is better suited to the land and there is a continuous human presence which is often less costly than management by an external body;
- Farmers are remunerated for the environmental services they provide in a transparent way which their fellow citizens can understand;
- Regions of the Union with the greatest biodiversity are generally farmed the least intensively. They therefore receive preferential Community support.

- Related activities become more attractive, e.g. the direct sale of meats, cheeses or wines labelled as coming from protected sites, the promotion of rural tourism linked to the discovery of nature, etc.

Tourism and recreation

4.20 In recent years, tourism has been regarded as a major opportunity for economic growth in rural areas. National parks are commonly perceived as a "brand" for unspoilt nature, providing high quality outdoor recreation opportunities. Local tourist enterprises have benefited from the establishment of protected areas. However, the tourism activities have to be managed in a sustainable way in order to provide long-term benefits for the local communities. One of the key challenges in protected areas is to improve the management of visitors and to reduce unfavourable impacts on the environment. Enhanced visitor management also contributes to an increased understanding and appreciation of the site among both visitors and residents.

4.21 The growing importance of sustainable tourism development in protected areas has been underlined by the recent elaboration of "International Guidelines for Sustainable Tourism" under the Convention on Biological Diversity (Canadian Secretariat of CBD, 2002). The CBD guidelines focus on making tourism and biodiversity more mutually supportive, engaging the private sector and local communities, and promoting infrastructure and land-use planning based on the principles of sustainable use of biodiversity. They set out the prerequisites for a new investment in tourism or a tourism-related activity in order to comply with conservation needs, outline the management of the approval process by the competent authorities, and provide ideas on how to use education and capacity building to develop sustainable tourism.



Farm tourism in Triglav National park, Slovenia

4.22 In parallel, the European Charter for Sustainable Tourism in Protected Areas (EUROPARC Federation (2007) reflects world-wide and European priorities these priorities were expressed in the recommendations of Agenda 21, which were adopted at the Earth Summit in Rio in 1992; and by the European Union in its 6th

Environment Action Programme and Strategy for Sustainable Development. The Charter has been drawn up by EUROPARC Federation, an umbrella organisation of protected areas in Europe. The European Charter directly addresses key principles of the International Guidelines, and represents a practical tool for their implementation at the regional level of protected areas. The aim of the Charter is to promote sustainable tourism by priority in nature and national parks, on the assumption that tourism in these areas should be nature and landscape friendly, meet the needs of visitors and the local population, and contribute to the economic development of the region. Awards for best practice are foreseen by the Charter as recognition of successful work. To contest an award, a Park should carry out an analysis of the current situation in all fields relating to tourism, elaborate a strategy and formulate an action plan for the forthcoming five years.

4.23 A study in the UK by the Henley Centre (2005) investigated the leisure and recreation trends of the population, especially those related to the use of natural environment. The results showed that the natural environment has a crucial role to play in providing space and opportunities for recreation. Also, a constant increase was noted of people's leisure time as their average age and prosperity go up, leading one to expect that direct contact with the natural environment would be sought more by people, in the form of recreation and tourism. However, the report warns that there is a section of society suffering from poverty and deprivation which remains excluded from nature-based recreation, having only limited access to the natural environment. It is concluded that the planning system is the key to creating more opportunities for outdoor recreation near to where people live, in order to make nature-based recreation accessible to all sections of society.



Recreation for all in the Liubljan-barje Nature Park, Slovenia

4.24 The issues of **vulnerability** and **carrying capacity** of the protected sites are very important for planning recreation and tourism in protected areas. Having identified the heritage features of potential tourism interest, the site's vulnerability to human pressures should be considered. Tourism

based on natural heritage is, by its very nature, more intrusive than other forms of tourism, even if the number of tourists remain small. This is why it is especially important to assess vulnerability at the outset so that the final products can be developed in a sustainable manner. The ultimate paradox would be for tourism to end up destroying the very thing that attracts it to the area in the first place. If, as may sometimes be the case for rare or fragile features, no form of tourism can be supported then conservation must come first. More often though, the vulnerability of a site means that the number of tourists should be limited rather than stopped altogether.

4.25 The level of visitor use an area can accommodate with high levels of satisfaction and little impact is known as its *carrying capacity*. This is notoriously difficult to assess as it operates on several levels: environmental, social and even psychological and involves a wide range of different factors such as frequency and density of use. Nevertheless, an attempt must be made to estimate carrying capacities of the different sites as this will have a significant influence on the type of visitor attractions that can be developed, the number of tourists that an area can accommodate, and consequently how the overall package will be marketed (European Commission, 2002).

Promoting sustainable land uses in Slovenian protected areas.

4.26 In 2005 the share of protected areas in Slovenia (by IUCN categories) was around 10% what is below European average (over 13%) and World average (around 12%). However this share is expected to increase substantially in the near future, according to the National Programme of Nature Protection 2006-2012. Natural heritage is protected either as a national park, as a regional park or as a nature (landscape) park. Slovenia has just one national park (Triglav National Park), three regional parks (Kozjanski, Škocjanske jame and Goričko Regional Parks) and several areas falling into the other categories such as protected landscapes, cultural landscapes, natural monuments etc.

4.27 Protected areas are becoming one of the most important assets of society in Slovenia, and already play an important part in the development of tourism in the country. According to evidence (Hladnik, J., 2005) more than 30% of foreign tourists come to Slovenia attracted by unspoiled nature and also 30% of Slovenian people spend their leisure time close to nature. It is expected that in the future protected areas will be a key factor in tourism development.

4.28 This requires however "above standard offer" ensuring peace, unspoiled nature and nature-connected activities for the visitor. Nobody disputes that Slovenia has a great potential to develop sustainable tourism in protected areas; the question is how to promote the right activities

and investments that suit the conservation needs of each area. Ecotourism is an option for developing sustainable tourism, which is seriously considered in the context of the National Parks of the country.

4.29 As shown in the case-study of Triglav National Park (Anton Perpar and Andrej Udovč, 2008, see case study 4.1), tourism is closely connected to the sustainable use of the Park. Such connection is very important to building the "tourist product" of the protected area. Moreover, agriculture has an important role to play: as shown in the Kozjansko Regional Park, agriculture contributes to maintaining the cultural landscape, thus increasing the attractiveness of the Park, while the agricultural products form part of the tourism offer (e.g. apples). Appropriate farming methods have also helped to increase biodiversity in some areas of the Parks and this policy is taken forward by the Park Authorities. For example, the Kozjansko Regional Park Board aim to increase the number of ecological farms in the area and to

create a network of ecological farms and tourism enterprises in the Park, as well as spas in the surrounding areas.



Dramatic view of the mountains in Triglav National Park

Questions arising from the chapter to reflect on:

1. Do you know the designated areas in your country? How can you find out which areas are designated?
2. Take a protected area in your country and think who would be the stakeholders in a rural development project in this area.
3. Are you aware of conflicts in designated areas in your country, between local inhabitants and the needs for conservation and protection of the environment? How can these conflicts be resolved?
4. The revenues generated from tourism in protected areas can greatly benefit the management of these areas regarding maintenance costs, research etc. What is the case in your country? How can the local community further benefit from the tourism inflow?

CHAPTER 5.

Landscape Protection: Policies and Planning for Sustainable Development

Definitions of landscape

5.1 A **landscape** consists of the visible features of an area of land, including physical elements such as landforms, living elements of flora and fauna, abstract elements such as lighting and weather conditions, and human elements, either in the form of human activity or buildings and other man-made constructions. Landscape is a complex notion with many overtones, and it calls for a deeper understanding of both Nature and Culture which are both also multi-layered.

5.2 The first formal use of the term comes from the geographer Otto Schuler in the early 20th century. In 1908 he defined Geography as a Landscape Science and suggested two forms of landscape:

- the natural landscape (*Urlandschaft*) or landscape that existed before major human induced changes and
- the cultural landscape (*Kulturlandschaft*) a landscape created by human culture

5.3 The concept of the Cultural Landscape had its greatest exponent in Carl Sauer. In his most influential paper "The Morphology of Landscape" (Sauer 1925) he suggests that landscape could be "*read to reveal the culture that made it.....one culture, one landscape*". This concept still drives the archeological way of looking at landscape and is also reflected in authors like Cosgrove (1997).

5.4 Another view taken of landscape stresses the artistic origins of the landscape concept in European art. Jay Appleton's (1975) work on the Experience of Landscape is also based within the pictorial concept, but looks outward to ask "*what landscapes do we like and why*". That immediately leads to the idea that our preferences have many causes, and that we might be influenced by our gender, our age, our nationality, our religion, the amount of power we hold, our degree of education, and – vital in the present day – our 'insideness' to the place.

5.5 But there is a fourth important concept of 'landscape' and this comes from the German *Landschaft*. As explained by W. Haber (1995) the word "landscape" has two components: the word 'land' and a verb of Germanic origin, "*scapjan/schaffen*" to mean, literally 'shaped lands'. Olwig (1996) explains that this meaning of landscape has its origin in the North Sea coasts of Germany and Denmark, where the community built their little territory largely by embanking the sea; and within their 'landschaft' their communal customs and laws

formed the main polity. This concept can be viewed as much more democratic and local than the High Art notion of a 'landscape'. It also reminds us that landscape is much more visceral and atavistic than say 'built environment'. It is an emotion as much as an object and is always being used as a national symbol, as for example in the Norwegian National Anthem.

5.6 The UNESCO World Heritage Convention has also recently defined landscapes from a more global point of view, adding Cultural Landscapes to its existing panoply of items that could be designated (UNESCO, 1972). UNESCO adopted a combination of the aesthetic and the historical concepts, which leads to Cultural Landscapes taking their value either because they are great works of art (gardens, usually the result of a named maker) or because they are 'classic texts' to show a past culture, whether it continues or not, or because they are sacred sites. Landscapes are 'cultural' to distinguish them from natural wildernesses. The problem with this definition is for some that while this may be an important distinction in theory, it has only limited application in Europe, as most (or all?) our landscapes are cultural. Moreover, the UNESCO version of landscape definition reflects the basic principles of the systems of landscape protection that rely on the conservation of special areas – such as National Parks or Biosphere Reserves; by designating them "special" automatically presumes there are surrounding areas that are not special, thus allowing any type of development to take place in these.

Landscape and sustainable development

5.7 Landscape is about the relationship between people and place. It is the setting for people's lives. In this sense, we realize that landscape has:

- Economic value: it offers opportunities for economic activity; businesses, visitors and residents are attracted to good quality landscapes.
- Social and community value: it can contribute to community cohesion and sense of ownership.
- Cultural value: it contains or relates to elements of history, art, folk traditions.
- Environmental value: it encompasses all the natural elements that make this "place" distinct.

5.8 Landscape is therefore a vital resource in the development of any region. The way landscape is used, managed and protected and even created, determines the sustainability of such a process. In other words, when considering how landscape might change it is critical to understand the character of the landscape, so any change is change for the better.

The European Landscape Convention

5.9 The most prominent initiative governing landscape protection, planning and management at European level at present, is the European Landscape Convention which was launched in 2000 by the Council of Europe. Considering the many different meanings of landscape, it is understandable that it was not an easy task to produce such a convention. Indeed, it was the outcome of a long process, which started in 1990 and involved a long list of environmental NGOs, the European Commission, the Council of Europe and the standing conference of Local and Regional Authorities and its successor the Congress of Local and Regional Authorities. The Convention was signed in 2000 and came into operation in 2004, following its ratification by many member states.

The **European Landscape Convention** states that:

"The landscape... ... has an important public interest role in the cultural, ecological, environmental and social fields, and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation;... contributes to the formation of local cultures and ... is a basic component of the European natural and cultural heritage, contributing to human well-being and consolidation of the European identity; ... is an important part of the quality of life for people everywhere: in urban areas and in the countryside, in degraded areas as well as in areas of high quality, in areas recognised as being of outstanding beauty as well as everyday areas; ... is a key element of individual and social well-being and ... its protection, management and planning entail rights and responsibilities for everyone."

Council of Europe (2000)

5.10 The stated aim of the Convention is to promote the protection, management and planning of Europe's landscape, and to organise European co-operation on landscape issues. The Convention relates to all landscapes – urban, peri-urban and rural; the ordinary and even the despoiled, as well as the exceptional. In line with the principles set out in the convention landscapes are perceived as the setting of people's lives: so, the general public should take an active part in caring for them. Moreover, Europe's landscapes are of value to all Europeans: therefore, public authorities in each country should take action to protect, manage and plan landscapes; and should cooperate with each other at European level.

The application of the Landscape Convention is focused on the following 12 active verbs:

1. to **recognise** landscapes in law;
2. to **integrate** landscape into all relevant policies;
3. to **identify** landscapes, that is to describe their character and the key elements in that character;
4. to **assess** the landscapes, that is to analyse what contributes to, and what detracts from, their quality and distinctiveness;
5. to **define objectives** for landscape quality, after public consultation;
6. to **protect** what should be protected;
7. to **manage** what needs management in order to be sustained;
8. to **plan**, in the sense stated in the Convention, namely to take strong forward-looking action to enhance, restore and create landscapes;
9. to **monitor** what is happening to the landscapes, in terms of change and the impact of that change upon the character of the landscapes and upon the achievement or not of the stated objectives;
10. to **promote** education and training;
11. to **raise** public awareness and participation;
12. to at European level, through exchange of experience, of information and of specialists e.g between governments, regional and local authorities, universities, and NGOs.

Michael Dower (2008)

5.11 The parties to the Convention are the member states who ratify it. By signing the Convention, they commit themselves to recognising landscapes in law; to establishing and implementing policies aimed at landscape protection, management and planning; to establishing procedures for the general public, local and regional authorities, and others to participate in this activity; and to integrating landscape into all relevant policies. Each state is expected to implement the Convention according to its own legal system and division of powers, respecting the principle of subsidiarity¹. Thus, much of the action may lie with regional or local authorities, who are (among their other functions) the prime guardians of the planning system; and many other stakeholders are involved (Dower, 2008).

5.12 One such group of stakeholders is connected to research and education. Landscapes, and the processes that affect them, are so diverse and complex, so linked to the cycles of nature and the demands of people, so subject to change as policies and human actions evolve, that the understanding of them is a major inter-disciplinary challenge. To meet this challenge, the academic world took action: a group of Universities who are committed to assisting the implementation of the Convention, have recently established UNISCAPE. (See case study 5.3).

¹ *The Oxford English Dictionary defines subsidiarity as the idea that a central authority should have a subsidiary function, performing only those tasks which cannot be performed effectively at a more immediate or local level.*

Landscapes and spatial planning

5.13 A crucial step in the process of implementing the Convention is to state the objectives for landscape quality. These objectives must be based upon the sound identification and assessment of landscapes, and within each of these landscapes the identification and assessment of the features that need protection, management or planning. This might be called an **internal** process, which is the heart of the landscape character idea and is indeed the prime process in many protected landscapes.

5.14 But most landscapes are affected also by **external** needs, such as demands for town expansion or production of renewable energy, or by external forces such as climate change. In stating the desired objectives for the planning or management of a landscape, those involved must take account of both these external needs and forces and the internal logic of landscape character, and must strive to reconcile the two, so that change to the landscape leads to enhancement, not diminution, of its distinctive character. This is the **crucial meeting-point** between landscape care and spatial planning. If landscape concerns and landscape character are to be reflected in the hard choices that have to be made, they must become integral to the spatial planning process and the policies which drive external needs, such as those related to energy, transport, water, agriculture and rural development.

5.15 The demands which will fall upon the landscapes of Europe in coming years form a massive challenge to all who are involved in planning and spatial management. They include:

- expected large-scale migrations of people, into and within Europe, and from the countryside to the cities, leading to heavy demand for new housing, services and infrastructure in the receiving regions;
- massive investment in infrastructure – (railways, roads, airports, electricity services, water supplies etc) and in industry, agriculture and other development;
- heavy emphasis on renewable energy, including investment in wind turbines, hydro-electricity and solar-energy plants, which all have major impacts on the landscape;
- measures to mitigate and adapt to climate change, for example through heavy investment in coastal and flood defences;
- continuing massive growth in tourism, with the demands that it makes for facilities of all kinds.

5.16 Yet, the impetus behind these major processes comes **not** from a concern with landscape, but from political imperatives such as the European Union's Lisbon Agenda (to make Europe "the most competitive and dynamic

knowledge-driven economy" in the world) and its commitment to 'cohesion' i.e. correcting the major disparities in levels of income between the regions of the Union. Massive funds will flow into development through the EU programmes, and through other multi-national funds such as UNDP and World Bank. Landscape however, does not figure among the objectives of these major funds. Even the Union's policy for sustainable development – the Gothenburg agenda – has no central reference to landscape. There is no equivalent for landscape of the Birds and Habitats Directives or of the Natura 2000 programme (see chapter 4).

5.17 These planning and special management processes pose a massive challenge; but they also present a massive opportunity to those who are concerned with landscape. Landscapes inevitably change and need continuous care and management. So, the pressures for development, and the funds available, can be used indeed to 'protect, manage and plan' our landscapes, provided that there is the popular and political will to realise it. Funding may come from the European Union and others, but decisions on spending and on quantity, location and quality of development rest largely at national, regional or local level, consistent with the principle of subsidiarity.

5.18 It is highly encouraging then that already 29 countries have ratified the Convention and that each state has thereby undertaken

"...to integrate landscape into its regional and town planning policies and in its cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape".

Integrating landscape into policies

5.19 The vital question is then, how are we to achieve the integration of landscape into all relevant policies in the way that is stated in the Convention? This demands decisive action at two levels – that of policy, and that of territorial planning and management:

- by 'policy', we mean the deliberate bringing of landscape as a significant factor into policies, at the right geographical or political level;
- by 'territorial planning and management', we mean the hard practical activity of expressing such policies in landscape objectives and in spatial plans, usually at sub-regional or local level.

These two processes are both vital and they support each other. This can be illustrated by the three examples that follow.

5.20 **Major Roads.** The European Union is spending large sums on the Trans European Transport Network (TERN). It should ensure that a concern to enhance landscapes or to minimise

damage to landscapes is written into the policy and into the environmental impact assessment for the major new roads. As each road project comes forward, the EU and the state governments should ensure that the detailed routing and design then takes account of the character of the landscapes through which it passes. The UK Highways Agency, for example, has committed itself to "*respect the landscape character and quality of an area when designing new roads or improving existing roads..... using a combination of sensitive road alignments, earthworks, the use of appropriate materials and planting*".

5.21 Wind turbines. Many governments wish to increase the number of wind turbines. These turbines can have major impact on landscapes, for good or ill. To assist the wind turbine industry, and to ensure the best results for the landscape, a government may do well to publish clear guidelines on the broad choice of location for wind turbines. This guidance can then form the basis for local planning authorities to state detailed policies for location of wind-farms.

5.22 New settlements. Responsibility for the location and design of new settlements, or for planning the growth of existing towns, usually rests with regional or local authorities. They should treat landscape as a major factor in decisions about land allocation, alongside such factors as land stability, proneness to flooding, capacity of infrastructure etc. The broad decisions on the scale and location of new settlements should then be followed by detailed design, taking account of the character of landscape.

A shared responsibility

5.23 The examples above show the vital importance of both types of action – that of policy, and that of territorial planning and management. A local authority may want to protect or enhance its landscapes when considering a major road, a wind-farm or a new settlement: but it may be unable to do so if the European, national or regional policies ignore landscape concerns. Conversely, the concerns of a national government or regional authority to protected landscape quality may be negated if local plans omit or abuse landscape objectives.

5.24 This implies that the care of our landscapes - which are both a highly diversified European heritage and the intimate setting of the lives of tens of millions of people – is indeed a shared responsibility. It depends on the action of public authorities at all levels, and of a wide range of stakeholders, notably all who own or manage land and physical structures of all kinds: for example the farmers who maintain dry-stone walls, often with government grants.

5.25 How should this shared responsibility be expressed in the field of planning and integrated spatial management terms? Some ideas are offered below:

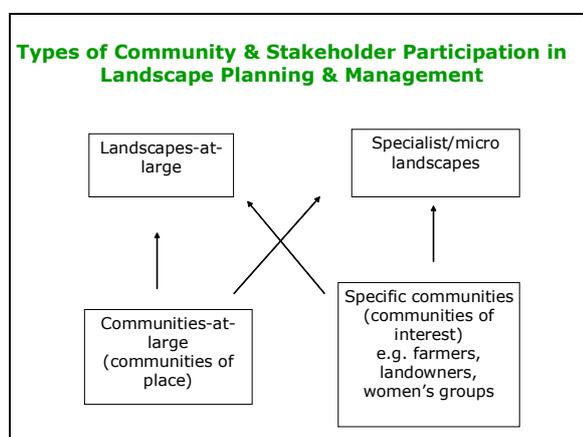
- State and regional authorities should progressively **review their policies** in all fields that significantly affect landscape; and, in doing so, should bring landscape considerations into each policy. This may be best done sector by sector, for example forestry or water catchment or agri-environment programmes, wind energy, road construction or tourism.
- Regional or local authorities, when preparing or reviewing their **territorial plans**, should fully incorporate landscape objectives, based upon the processes of identification and assessment stated in the Convention: there is now ample experience in many countries on which they can draw.
- A guide to sustaining and enhancing the quality and diversity of landscapes may be offered by the idea of **landscape character**. The glory of most European landscapes lies in their diversity, which itself arises from Europe's tremendous variety in climate, land form, geology, vegetation and the impact of human activity over thousands of years. The process of identifying and assessing each landscape, whether through a national survey or by more localised and detailed work, should reveal the features which form the individual character of this landscape. Such character assessment is then the starting-point for stating landscape objectives, which feed in to the spatial planning policies and detailed decision-making for each area. For example, the Character of England project (Case Study 5.4), defining over 150 distinct landscape areas, is the product of such a **territorial survey**. A survey of this kind is not only an essential basis for the expression of landscape objectives at the local level, but it can also be of high value in clarifying and applying national policies.
- Substantial funds are becoming available for **management of rural landscapes** through Axis 2 of the EAFRD – European Agricultural Fund for Rural Development. Many EU member states, in their Rural Development Programmes co-funded by the EAFRD, are placing great importance on agri-environment schemes. These schemes support farmers and land managers to pursue traditional farming practices, such as terracing, dry-stone walling, coppicing, grazing of flower-rich meadows and uses of regional races of livestock – all of which can sustain the quality and diversity of landscapes.

5.26 Finally it should be stressed that the sustainable development of landscapes calls for all citizens of Europe to co-own the landscapes in which they live. Governments alone, at whatever geographic level, cannot achieve the care for and enhancement of landscapes to which the Convention aspires. The people must want action,

must demand action and must themselves contribute to action. It is important to use all opportunities to enlist their interest and their active contribution, from the earliest age.

5.27 Everyone has a stake in landscape, it is important that everyone should have the opportunity to have a say on how it changes and develops, and how it is used and managed. We can define the way people engage with the landscape in three ways:

- Protecting the most valued elements or qualities of our landscapes – *landscape protection*.
- Ensuring the active and sensitive upkeep of landscapes – *landscape management*.
- Consciously designing and creating new or better landscapes where this is needed – *active landscape planning*.



5.28 Public participation is indeed included in almost every article of the Convention. This is a vital task, for three main reasons: **democracy** - in that landscapes belong to everyone; **co-responsibility** - in that every citizen, every property owner, every user of land, can influence the look of the landscape for good or ill; and **governance** - in that concern within the population can lead to a commitment in government. However, there is still a long way to go in raising not only public awareness of the landscape, but active public involvement in action related to it. This is a great task for both public bodies and for non-government organisations. The recent establishment of CIVILSCAPE, the grouping of NGOs who are committed to assisting the implementation of the Convention, is a good example.

5.29 NGOs have a vital role to play also at local level in mobilising citizens to take up action in favour of the environment. A range of "tools" have been developed in some countries to make such involvement of local communities more effective. Below, a few of these tools used in the UK are listed:

Parish Landscape Statements describe the distinctive character of the parish through:

- The landscape setting.
- Views into and out of the Parish.
- The shape of the settlement.
- The nature of the buildings and materials.

They also show how the local character and distinctiveness can be protected and enhanced in new development and can be adopted as Supplementary Planning Documents or incorporated into a Parish Plan.

Village Design Statements describe the physical character of the village and what makes it a special place in which to live and work. They set out design objectives that residents and developers should meet when thinking about building in the village – representing the views of the community. This can also be an element of a Parish Plan. Once adopted as Supplementary Planning Document the VDS becomes part of the Local Development Framework and has legal standing in the UK Spatial Planning System.

Gittins (2008)

Conclusion

5.30 We must realise that our landscape is changing, and the pressures it has to withstand originate from many sources: for example the need for sustainable housing and jobs; the reform of the Common Agricultural Policy; or climate change. The European Landscape Convention can guide change but not resist it. It provides a framework to protect valued landscapes and to help manage landscape change. It also offers the opportunity to the member states to learn from each other and share experience.

5.31 Working with the principles of the European Landscape Convention puts people –from all cultures and communities- at the heart of spatial planning and sustainable development, alongside other vital stakeholders, such as central, regional and local authorities, NGOs, education institutions etc. Working with the Convention also increases awareness and understanding of landscapes, their value and how they work; and promotes a more accessible and integrated approach to shaping and managing future landscape change.

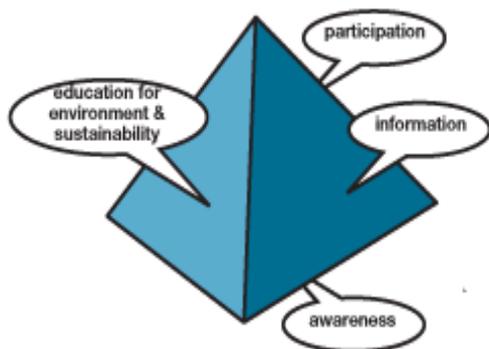
Questions arising from the chapter to reflect on:

1. Has your country ratified the European Landscape Convention? If so, is this being reflected in law, in policy and in action? If not, why? and does it matter?
2. Has your country officially recognised and assessed landscapes of special value, according to the requirements of the European Landscape Convention?
3. Do ordinary people in your country care about the landscape that they live in? If so, what do they do to express this concern?
4. What impact does rural development have on the landscape in your country?
5. Is the landscape (i.e. its character, quality and the policies to protect and manage it) a positive or a negative factor in the field of rural development in your country?

CHAPTER 6.

Awareness raising and mobilisation of citizens

6.1 It is commonly agreed that sustainable development cannot be achieved without the involvement of all stakeholders, including citizens. Citizens contribute to the environmental sustainability through action in their lives and their communities, but also through their participation in the decision making process. Often though, citizens are not aware of the issues, and many do not know how to become involved. So in mobilizing citizens to take action and building their capacity to influence policy decisions about the environment, it becomes necessary to raise their awareness, provide information and educate them on environmental topics. As is schematically presented below, raising awareness, access of information, education and participation are interconnected.



Source: Scoullos, Roniotes, Malotidi V. (2002)

6.2 A landmark in the establishment of environmental democracy and government accountability regarding environmental matters has been achieved by the Aarhus Convention, i.e. the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. The Convention grants rights to the general public to access environmental information held by the government authorities, obliges decision-making authorities to consult the public on matters that affect them, and gives the public the right to challenge the implementation of the two aforementioned "rules". As pointed out in the Aarhus Convention Strategic Plan: *"The serious environmental, social and economic challenges faced by societies worldwide cannot be addressed by public authorities alone without the involvement and support of a wide range of stakeholders,*

including individual citizens and civil society organizations".

The three pillars of the Aarhus Convention.

The first is access to **environmental information**. The Convention provides broad rights of access. Any person, without restriction by nationality or place of residence, is entitled to request environmental information held by public authorities. Environmental information is broadly defined. Access to requested information may only be denied on the basis of one of a specified list of exceptions and these are to be narrowly interpreted. The Convention also requires public authorities to help people with requests, for instance by making practical arrangements for obtaining information or by passing a request to the authority thought to hold the information if the first authority approached does not hold it. The Convention also encourages the active supply of information.

The second pillar covers **public participation**. The 'public concerned' is to be given the right to participate in environmental decision-making by an early, informed and effective opportunity to submit its views before decisions have been taken. The Convention covers decision-making on projects, such as licensing polluting facilities, most fully. The Convention also applies to decision making on programmes and encourages parties to the Convention to provide public participation opportunities in developing policies.

The third pillar covers access to **justice**. It provides for the review, by a court or other similar body, of decisions concerning the first two pillars, access to environmental information and public participation in environmental decision-making. It also provides a basis to review acts and omissions by public authorities or private persons that breach national environmental law. The Convention requires review procedures to be 'fair, equitable, timely and not prohibitively expensive' and to provide 'adequate and effective remedies'.

Ralph Hallo (2007)

6.3 Initially thirty-five countries and the European Community adopted the Convention at Aarhus in 1998 and more have subsequently signed. Since then, most of the signatories have ratified the Convention and together with several states that acceded to the Convention later, the number of parties has now reached 41. This includes the European Community (which ratified it in 2005) and all EU Member States save Ireland. The EU has taken a number of steps, by issuing

appropriate directives, to implement the Aarhus Convention¹.

Education for Sustainable Development (ESD)

6.4 The importance of education for sustainable development (ESD) was first highlighted at a global level in 1992 at the Rio summit within the blueprint of Agenda 21. It was more directly addressed in 2005, through the UNECE Strategy for Education for Sustainable Development and the commencement of the United Nations Decade of Education for Sustainable Development (2005-2014).

6.5 The idea behind ESD is that integrating the principles, values and practices of sustainable development in education will encourage changes in behaviour in a way that will contribute to a more sustainable future. ESD goes beyond environmental education (although this remains a core theme area) to include a wide range of related issues that play a role in sustainable development such as poverty alleviation, social equity, cultural diversity, economy, environmental protection, natural resource management. The scope of ESD is both global and local; indeed local, national and regional circumstances need as much attention as the global ones.

6.6 The concept of ESD takes a view of education and training as a life-long learning process, not limited to schools but one that permeates all levels of learning, including further and higher education, non-formal and informal education as well as the training of educators. To achieve its learning targets it requires the development of skills and formation of appropriate attitudes. It is therefore understandable that the complex and evolving nature of ESD needs a holistic and collaborative approach that involves various stakeholders including governments and local authorities, the education and scientific sectors, the private sector, industry, the mass media, NGOs, as well as the communities and individual citizens.

6.7 Thus, the concept of ESD includes three components:

- Formal Education

Formal education institutions play an important role in developing life skills in children, transferring knowledge and influencing attitudes and behaviour. ESD in formal education is relatively well developed in much of western and central Europe as well as in many SEE (South-eastern European) and EECCA (Eastern Europe, Caucasus and Central Asia) countries. Often this still relies on passive transfer of information, but

increasingly there are developments towards a more interactive and embedded processes, involving, for example, NGOs and addressing environmental issues in the context of sustainable development.

- Non-formal education

Non-formal education is taking place in the everyday life of people, as part of their jobs and other everyday activities, or by attending learning sessions (seminars, extra-curricular courses) that aim to improve their social competences leading to a better quality of life. Information and awareness raising about environmental issues can be an effective source of non-formal learning. Examples of this type of learning providers include the Aarhus centres on environmental information (named after the Aarhus Convention) and the information centres established by environment ministries in several countries across Europe.

- Further and higher education

It is very important that the principles of sustainable development are embedded in vocational training, higher education and continuing education, as this will significantly contribute in embedding environment-friendly practices in the work routines of both decision-makers and employees across society as a whole. Further and higher education planning should take into consideration the needs of different professions and the relevance of sustainable development themes to their fields of work. Additionally, higher education institutions can –and increasingly do– contribute to the research and development for sustainable development by setting up specific programmes of study.

6.8 Several countries have introduced ESD in their official curricula. In Finland, for example, sustainable development has been included in the National Core Curricula as follows: *“The objective of the promotion of sustainable development shall be for students to know the principles of sustainable development and become motivated to promote them when studying, at work and as citizens. They shall know environmentally positive working and operating methods and act accordingly and shall, in particular, recognise common hazardous wastes and be able to treat them accordingly. They shall value the diversity of nature, understand the economic, social and cultural dimensions of sustainable development and know how to promote them.”*

6.9 In other countries, however, especially in the Mediterranean region, the provision of ESD mainly in the form of environmental education is optional and depends on the school resources, the willingness of teachers to include it in their curricula and the willingness of students to take ESD beyond normal school hours. In any case, environmental education is not obligatory and does not provide extra credits for the students. Despite this very loose situation, environmental

¹- adoption of Directive 2003/4 on public access to environmental information

- adoption of Directive 2003/35 on public participation

- adoption of Regulation 1367/2006 applying the Convention to EU institutions and bodies

- adoption of Decision 2005/370/EC on ratification of the Convention and deposit of its instrument of ratification

education sessions have been very popular in Greek, Spanish and Portuguese schools.

6.10 Some recommendations are provided, on the basis of the successful Finish education system. First of all, it should be recognised that sustainable development is the greatest challenge facing humankind. When schools commit themselves to practising the principles of sustainable development in their work, this will gradually radiate to all sectors of society through young and adult people. For the school ESD programme to be effective, the entire school community including management and teaching staff should follow the principles of sustainable development. Also, it is extremely important that there is nationwide support available to schools in the instruction of sustainable development. Core curricula in all education grades, including Vocational Education and Training must lay the foundation for including sustainable development in different study fields. This should also be reflected in the certification system for education providers, who should prove that environmental awareness is promoted through their learning programmes.

6.11 To achieve the effective integration of ESD in both school and further education and training, teachers and trainers should have appropriate skills. However, in most European countries such skills do not form part of the profile of teachers. Thus, changes are needed in teachers' initial and in-service training. Since environmental issues are interdisciplinary and relate to lifestyles, dealing with them in a varied way requires cooperation within the school community and with partners outside the school. This line of action requires further development and structural solutions. Entire work communities should be trained in these matters. In addition, it is still needed to produce teaching and learning materials for teaching sustainable development. Network cooperation is also important: networks are platforms for sharing experiences and further developing established lines of action. Cooperation with environmental experts and organisations can help educational institutions to find new solutions for ESD.

6.12 Non-governmental organizations (NGOs) are also important providers of learning, especially informal and non-formal learning. Through their activity they empower citizens to participate in decision making, as well as to integrate and transform scientific knowledge and facts into easily understandable information. They act as mediators between governments and the general public and therefore their role should be recognized, promoted and supported. Partnerships among NGOs, governments and the private sector add significant value to ESD.

6.13 The role of mass media as a learning resource with considerable power in raising awareness, influencing attitudes and encouraging action cannot be ignored. Mass media is a

powerful vehicle in guiding consumer choice and lifestyles, besides being a major source of information. The challenge is to mobilize the know-how and distribution channels of the mass media to pass on reliable information and key messages about sustainable development and environmental issues.

Information availability and access

6.14 Information plays a very important role in raising awareness and stimulating action and participation by citizens. The majority of the environment-related problems arise from the lack of knowledge about environmental issues, which is due to incorrect or insufficient information. In order to avoid that, there should be mechanisms for the exchange of information between decision-makers and the general public, among members of the general public and between the general public and other responsible stakeholders. Better access to information about the environment is likely to result to an increased feeling of motivation and personal responsibility for the environment among the general public.

6.15 The internet has had a dramatic effect on the availability and accessibility of environmental information. Most EU countries maintain national web portals or other sites of interest to ensure that environmental information is available electronically. Several countries have an Aarhus Clearinghouse web portal² in operation to promote the exchange of information, and to ensure public access to information and participation in decision-making. Moreover, 'e-government' initiatives are radically improving access to information, but not necessarily motivating public participation in environmental decision-making. In many EU countries, governments have formulated and implemented national 'e-government' strategies for the use of electronic tools to facilitate administrative processes and services.

6.16 However, environmental awareness and information does not always lead to a change in behaviour. Indeed, to transform the environmental awareness of the general public to enhanced responsibility at individual, community and corporate level remains a challenge for policy makers and society at large (European Environment Agency, 2007). Further to this, one should add that information delivered through the internet does not reach all rural areas. The digital divide puts rural areas at disadvantage, especially in some countries (e.g. new member states, Greece) where the proportion of internet-using households in rural areas is very small. New questions are also emerging around the evident problems of information overload, complexity of information and appropriate levels of presentation, the plurality of (sometimes conflicting) information sources and the appropriateness of traditional

² <http://aarhusclearinghouse.unece.org>

typologies of environmental problems (Scoullos, Roniotes, Malotidi, 2002).

The experience of Croatia

Aiming to raise awareness, generate public pressure, and ensure public participation in influencing environmental policies and practices, the Action Coalition of Croatian environmental NGOs identified the following main areas of concern with special reference to rural areas:

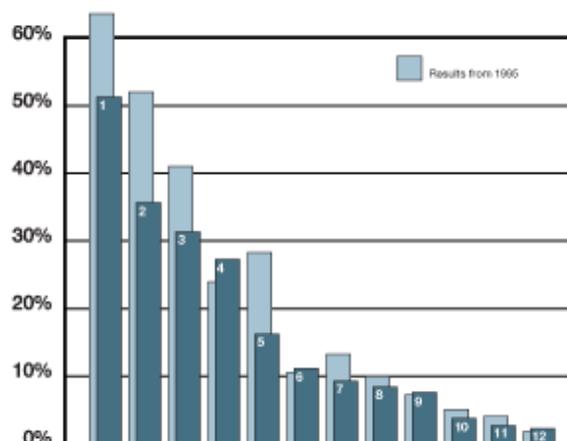
1. A lack of interest and representation of the general public in environmental issues due to the lack of systematic approach to education of the population, formal or informal.
2. Environmental protection has been pushed to the margins of the social and political agenda due to the low purchasing power of the rural population and economic recession. As a result of that, the media have not paid attention to environmental issues.
3. In society as a whole, and especially in politics, the role of individuals, NGOs and other informal environmental groups has not been well established.
4. There is an especially noticeable lack of public, easily accessible information on environmental issues or public environmental databases.
5. There are no established communication channels among the potential participants in the process of environmental protection.
6. There is an overall lack of funding, and there is also a shortage of funds for the activities of NGOs in the environmental field.

6.17 In dialogue with the Member States, the EU has recently agreed upon the concept of a Shared Environmental Information System for Europe (SEIS). The scope of SEIS is to establish an integrated and sustained environmental information system to improve the sharing of data within Europe and beyond. Such an information system should lead to an improvement in both the quality of environmental data and information, and in its management, use and dissemination. The benefits of such a shared information system are expected to be great, and have already been recognised by regional and international organisations beyond Europe. SEIS is based on a distributed or decentralised network of public information providers for sharing environmental data and information. This concept reflects, on the one hand, Europe's commitment to an open society and good governance, and, on the other hand, the possibilities offered by today's information and communication technology (European Environment Agency, 2007). Such a system however is faced by several challenges: to organise the vast array of existing environmental data; to integrate them with existing data; to make them available to experts to benefit research; and finally to communicate them to the

general public in a way that such data can be understood and used by citizens for their own environmental action.

6.18 Trust in information sources is another important issue. Information, to be useful and effective, must be seen by people as coming from a source that is trusted. The Eurobarometer 1995 and 1999 surveys show that in the European Mediterranean countries, environmental protection organisations are considered to be the most reliable sources of information about the state of the environment and environmental issues, and that industry is the least trusted source, followed by main political parties (the "green" parties scored higher) with public authorities also gaining spectacularly low scores. The findings are similar to those obtained by the Eurobarometer some ten years earlier showing that public bodies act more effectively at local than global levels but overall are considered by the public rather ineffective, while industry is still felt not to take sufficient account of its environmental impacts. The untrustworthiness of various institutions relates to the ways in which they are commonly perceived to be acting primarily in their own political or economic interests, rather than for the wider public good.

Trust in information sources
(Eurobarometer, 1996-1999)



1. environmental protection organisation
2. scientists
3. consumer associations
4. the media
5. teachers at school or university
6. political parties claiming to be for the environment (green, ecologists, etc.)
7. national or local government
8. none
9. don't know
10. trade unions
11. political parties in general
12. industry

This finding is highly significant for public information providers with responsibility for

changing behaviour: the credibility of the source of information, particularly on issues related to sustainable development, is obviously crucial to the way in which that information is interpreted by the public (Scoullos, Roniotes, Malotidi, 2002).

Community engagement and participation

6.19 One of the basic prerequisites for the achievement of sustainable development is the engagement and effective involvement of citizens in the preparation and implementation of environmental decisions. Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process but also that their participation will influence the decision. All must become aware of the need to participate actively and assume their share of responsibility for the general social development coupled with the simultaneous protection of the environment. In order to achieve this, everybody must be involved during all the stages of the process: planning, implementation and control.

6.20 The technical nature of environmental matters, insufficient understanding of the decision-making process, but also complacency are some of the reasons why often community members remain inactive when it comes to protecting the environment. Engaging citizens, encouraging and enabling them to act, is a very challenging but important part of the process, if we wish to succeed in building a sustainable rural environment.

6.21 Public participation is a central part of sustainable development policies: its main purpose is to improve decision-making, by ensuring that decisions are soundly based on evidence and they are influenced by the views and experience of those affected by them, that innovative and creative options are considered, new arrangements are workable and acceptable by the public, etc. The key potential benefits that can result from public participation are the following (Scoullos, Roniotes, Malotidi, 2002):

- Increase public awareness of environmental issues
- Make use of knowledge, experience, initiatives of different stakeholders and thus, improve the quality of plans, measures, policies, etc.
- Public acceptance, commitment and support / consensus building
- More transparent and creative decision-making
- Less misunderstandings, litigation, delays, and more effective implementation and in the long term, safeguarding and reinforcing of democracy.

6.22 Public participation is an evolving process. This process can follow many steps, although not always in the same order. For example, it can start

from passive provision of information, followed by exchange of information upon request by citizens; raising of public awareness through media and specially conducted meetings; education on conservation issues gradually developing into education about the root problems and sustainability; access to justice and credit by individual citizens, civil groups and NGOs for environmental purposes; and institutionalised full partnership with governments and other socioeconomic partners in a new era of shared responsibility and governance. This is a long and difficult road, already experienced in most countries as an "uprising curve", very closely linked with the democratisation process, the expansion of environmental education and the sensitisation of the wider public on issues of environment and sustainable development.

6.23 The role of NGOs in the public participation process is crucial. They usually represent local communities in their consultations with public authorities and policy makers and they can be effective front-runners in environmental issues. They are also, on the whole, enjoying more trust from local populations, than any other group involved in environmental protection, as discussed above. Networking of NGOs can be even more effective. We give three examples of such networks that bring together environmental NGOs and public authorities, and have thus established effective cooperation with policy makers on decisions relating to environmental protection.

6.24 The **Cheshire Region Biodiversity Partnership** exists to coordinate and deliver conservation action to help safeguard the Cheshire region's most vulnerable wildlife. The partnership consists of 73 partners, including public authorities (e.g. the Cheshire County Council), environmental NGOs, of both local and national coverage and character, other public bodies with a particular remit in the countryside (e.g. the Forestry Commission and the British Waterways). The partnership builds on the experience of Local Agenda 21 and is promoting an Environmental Action Plan for the whole region, which includes 73 local or sectoral action plans.

6.25 The **EUROPARC network** consists of 372 NGOs and public organisations related to protected areas in 38 European countries. Most of the members of these environmental organisations are also members of others at the same time. This is especially true of governmental representatives, at national, regional and local levels, who are key partners. As the largest network of protected area managers in Europe, the membership of the EUROPARC Federation is of considerable importance for the implementation of Natura 2000 in the European Union.³

6.26 The **Euro-Mediterranean Civil Forum** has been the voice of civil society in the Euro-

³ <http://www.europarc.org/>

Mediterranean Partnership (EMP), established to implement the Barcelona Declaration of 1995.⁴ It was organised for the first time during the Barcelona Conference in November 1995 on the initiative of southern European NGO activists and intellectuals. Since then, several civil fora have taken place during or prior to almost every conference of foreign ministers of the Barcelona Process. What began as a gap-filling activity has quickly become a more or less established event and a prominent meeting point for civil society representatives from EMP countries. Due to their informal character, the fora facilitate the exchange of opinions among civil society actors even at times when governments interrupt the official dialogue. Nevertheless, nowadays the EuroMed Civil Forum suffers from two main problems, one being its composition and format and the other the lack of agreement on the question of which role the forum -as an example of organised civil society representation at a Euro-Mediterranean level- is supposed to exert within the EMP (Reinhardt, 2002).

Conclusion

6.27 The ultimate goal of public awareness, sharing of information and education for environment and sustainability is to develop the knowledge, understanding, skills and abilities of individuals and groups to behave and act for the protection of the natural environment. This is imperative for rural areas and their inhabitants, whose livelihood depends on the good condition of the natural environment. Raising public awareness calls for a systematic effort from governments regarding education for sustainable development at all levels, i.e. formal, non- formal and informal, addressing all ages. It also calls for active involvement of environmental NGOs in the process of both information provision and public participation, given the relative trust that they enjoy from the public. Partnerships between NGOs and public organisations involved in policy making seems to be a good way to improve understanding, dialogue and participation.

⁴Convention for the Protection of the Mediterranean Sea Against Pollution, www.unep.ch

Questions arising from to the chapter to reflect on:

1. Debate the statement: "As an individual, I can do nothing about global warming, so why should I bother to make any changes to my lifestyle?"
2. What is the system of environmental education or education for sustainable development in your country? Has it been introduced in schools as obligatory or optional subject? Are there non-formal courses for adults?
3. Have you ever visited an environmental information database? Have you found it easy to understand and use it? Can you visit one now?
4. Do you belong to an environmental NGO? What is the role of environmental NGOs in your region/country regarding the protection of the environment and sustainable rural development?
5. Do you feel that people in your region/country have a say in the decisions of government regarding the protection of the environment? How their participation in these decisions can be improved?

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