

BACKGROUND STUDY

on institutional and management frameworks

in the Biosphere Reserves Aggtelek (Hungary), Babia Góra (Poland) and Šumava (Czech Republic)



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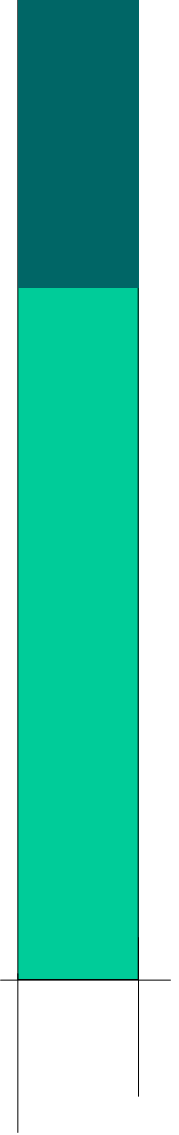
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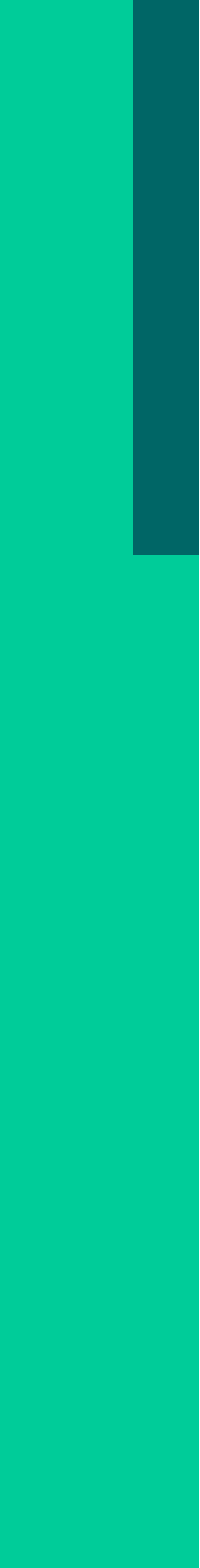
FOREWORD

Biodiversity is under serious threat from unsustainable exploitation, pollution and land-use changes throughout Central and Eastern Europe. Ecotourism while still at a relatively modest level of development in the region, provides opportunities as well as challenges for the sustainable use of biodiversity. Environmentally sustainable investments in the ecotourism sector could produce vital benefits to communities and provide an important and viable alternative to investments with negative biodiversity impacts.

The project "Conservation and Sustainable Use of Biodiversity through Sound Tourism Development in Biosphere Reserves in Central and Eastern Europe" will strengthen protection of globally significant mountain ecosystems in selected Biosphere Reserves of Central and Eastern Europe. The project is partly funded by the Global Environment Facility (GEF) of the United Nations Environment Programme (UNEP) and also supported by UNESCO. It aims at implementing the CBD Guidelines for Biodiversity and Tourism Development as well as UNESCO's Man and Biosphere concept.

This is being achieved through the development of new and innovative management systems with a special focus on tourism-related uses of the sites. Concurrently, awareness raising and capacity building systems are being developed and implemented, to ensure long term sustainable impacts. Tourism model initiatives and activities are being initiated to ensure distribution of returns for conservation purposes as well as to local stakeholders.

The Background Study on institutional and management frameworks aims at identifying opportunities and challenges for an improved visibility of the Biosphere Reserves as a basis for sound tourism development in the respective regions. Key objective of the study is the identification of current and potential partners supporting the objectives of the project. The study illustrates the internationally agreed framework on the interlinkage between biodiversity conservation and sound tourism development as provided by UNESCO and the Convention on Biological Diversity (CBD) and characterises the framing conditions for nature protection policy in the three countries. At the end of the analysis, potentials of and challenges for the further implementation of the MAB Programme in the CEECs are described, and recommendations and guidelines for improved biosphere reserve management and sound tourism development in the three countries are discussed.



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GLOSSARY OF ACRONYMS

ACBR	Advisory Committee on Biosphere Reserves (set up by UNESCO's Director General)
ANPD	Aggtelek National Park Directorate (Hungary)
BR	Biosphere Reserve
CBD	Convention on Biological Diversity
CEEC	Central and Eastern European country
CEEWEB	Central and East European Working Group for the Enhancement of Biodiversity
CEPA	Communication, Education, and Public Awareness
COMECON	Council for Mutual Economic Assistance
COP	Conference of the Parties
CSD	Commission on Sustainable Development
EsA	Ecosystem Approach of the CBD
EU	European Union
GEF	Global Environment Facility
ICC	International Co-ordinating Council of the UNESCO-MAB Programme
IISD	International Institute for Sustainable Development
ISPA	Instrument for Structural Policies for Pre-Accession (EU)
MAB	Man and the Biosphere Programme (UNESCO)
MEA	Multi-lateral Environmental Agreement
NC	National Committee (MAB)
NEP	National Environmental Programme (Hungary)
NGO	Non-Governmental Organisation
NP	National Park
NUTS	Nomenclature of Territorial Units for Statistics (EU)
OECD	Organisation for Economic Co-operation and Development
PA	Protected Area
PHARE	Pre-accession instrument of the EC to assist applicant countries of Central Europe in their preparations for joining the European Union
PLA	Protected Landscape Area
PoW	Programme of Work
REC	Regional Environmental Centre
SAPARD	Special Accession Programme for Agriculture and Rural Development (EU)
SEP	State Environmental Policy (Czech Republic)
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice (CBD)
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WNBR	World Network of Biosphere Reserves (UNESCO-MAB Programme)

EXECUTIVE SUMMARY

1. This background study on institutional and management frameworks in the Biosphere Reserves Aggtelek (Hungary), Šumava (Czech Republic) and Babia Góra (Poland) aims at identifying opportunities and challenges for an improved visibility of the Biosphere Reserves as a basis for sound tourism development in the respective regions. Key objective of the study is the identification of current and potential partners supporting the objectives of the overall project "Conservation and Sustainable Use of Biodiversity through Sound Tourism Development in Biosphere Reserves in Central and Eastern Europe".

2. The UNESCO 'Man and the Biosphere' Programme with its World Network of Biosphere Reserves as well as the 'Guidelines on Biodiversity and Tourism Development' of the Convention on Biological Diversity (CBD) are embedded into a wider conceptual framework that finds its roots in the concept of sustainable development and the integrated management of ecosystems. The commonalities in the overall objectives of the MAB Programme and the CBD, as well as the convergence in their implementation concepts, substantiate in the Seville Strategy for Biosphere Reserves of the UNESCO-MAB Programme and in the CBD's Ecosystem Approach.

3. Considering the national frameworks for the implementation of the UNESCO-MAB programme, there is a general trend in the Central and Eastern European region that is *inter alia* characterised by a considerable development pressure resulting from the transition to market economy and the rapid accession to the European Union. Against the background of a still emerging democratic societal discourse on the reconciliation of nature conservation with the sustainable use of natural resources and ecosystem services in the region, further challenges for integrated environmental policy formulation and implementation arise out of the lack of human and financial resources and weak law enforcement.

4. The Šumava National Park at the Western border of the Czech Republic has made a major contribution to ecosystem oriented development of the region. These efforts are supported by a consistent national legislative and administrative framework for ecosystem management. Major flaws can be detected in the interaction between National Park administration and neighbouring communities, caused by a generally contained attitude from both sides. Although the NP administration has recently undertaken some efforts to more closely align biodiversity conservation to regional development, a congruent approach based on broad societal support from local stakeholders is lacking. This might be due to the fact that the National Park is not perceived as an agent for regional development but as an advocate for nature conservation¹.

5. The Aggtelek Biosphere Reserve at the Northern border of Hungary has a long tradition as a site for nature tourism featured by the outstanding characteristics of its cave system. However, the impressive successes of the National Park administration concerning tourism development and ecosystem research might be thwarted by its weak efforts to establish fora for a broad participation from local stakeholders in the sub-regional development process. The National Park has not been successful in connecting its development dynamic with the surrounding communities. This causes persistent tensions between the Park and its neighbours.

¹ The relation between the Šumava National Park and the Biosphere Reserve is described in chapter 3.1 under "Institutional Framework" of the BR, p.28.

6. The Babia Góra Biosphere Reserve at the Southern border of Poland only rarely benefits from the Polish achievements in the establishment of the legal and administrative structures to integrate biodiversity conservation with sector planning. Authorities on the local level often lack capacity for land use planning and the resources needed to implement or enforce such plans on the local level. Moreover, ecological awareness and education on the local level is weak. The idea of sustainable development as a beneficial option for regional development is not anchored in rural communities. The insufficient implementation of the Biosphere Reserve as an agent for sustainability is a major flaw for an integrated development of the Babia Góra region.

7. In synthesis of the case studies and with respect to the implementation of the Seville Strategy, results are quite disappointing. Concerning the establishment and operation of biosphere reserves capable of acting in a at least a sub-regional development context and in the sense of the Seville Strategy, one could consider the case studies' biosphere reserves as "paper reserves" without structure, personnel, budget, and management plan. Even though tourism development is advanced in the Aggtelek BR and the Šumava BR, the economic growth of tourism industries connected to the National Parks did not cause substantial positive effects in the economic development of the surrounding areas. Spatial planning on the national and regional level seems to be only poorly connected to local processes: there is a huge gap between what has been agreed on at the national level, and what still needs to be implemented in the local context.

8. On the international Level, The World Network of Biosphere Reserves (WNBR) is by far not in the position to facilitate sufficient exchange of information and experiences between all involved institutions: MAB Secretariat, regional sub-networks, National MAB Committees, and individual biosphere reserves. On the national level, the composition and equipment (funds, personnel) of the National MAB Committees is inadequate to promote the vision of the Seville Strategy. The case studies' biosphere reserves are lacking organisation, funding as well as community support and are limited through a low recognition of the Seville Strategy and low environmental awareness.

9. Due to the multiple tasks necessary to establish fully functioning biosphere reserves on the case studies' territory, only a general guide to protected area management is provided. It focuses on the interlinkage of BR management and sustainable regional development, on participatory management and on the necessity to develop capacities for biosphere reserve management and coordination. It is recommended to strictly enforce the regulative framework laid out in the Seville Strategy and the Statutory Framework for Biosphere Reserves with regards to both the designation procedure for and the periodic review of biosphere reserves included in the WNBR.

10. Challenges for the further implementation of the UNESCO-MAB programme are manifold. They concern the international, the national and the local level, while the National MAB Committees play a central role in the implementation process and in making the Seville Strategy a reality on the ground. A series of issues that hamper the effectiveness of MAB-NCs need to be adjusted. Recommendations concern funding, composition of the members, development of national strategies, support to information exchange, public relations and community involvement. In general, MAB-NCs have to play a much more pro-active role in the network and have to more closely follow the principles laid out in UNESCO's 'Guidelines for establishing MAB National Committees'.

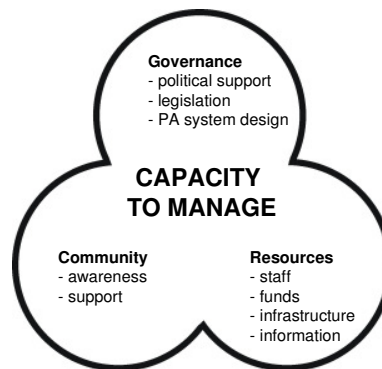
1 Introduction

1.1 Exploring biodiversity conservation and sustainable tourism in Central and Eastern Europe

This background study on institutional and management frameworks in the Biosphere Reserves Aggtelek (Hungary), Šumava (Czech Republic) and Babia Góra (Poland) aims at identifying opportunities and challenges for an improved visibility of the Biosphere Reserves as a basis for sound tourism development in the respective regions. Key objective of the study is the identification of current and potential partners supporting the objectives of the overall project “Conservation and Sustainable Use of Biodiversity through Sound Tourism Development in Biosphere Reserves in Central and Eastern Europe“.

UNESCO’s Man and Biosphere Programme aims at ‘achieving a sustainable balance between the sometimes conflicting goals of conserving biological diversity, promoting economic development and maintaining associated cultural values.’ (UNESCO 1995) The integration of conservation concerns with regards to and sustainable uses of biological diversity is further promoted by approaches such as the CBD’s Ecosystem Approach, an integrated strategy for the management of land, water and living resources that promotes conservation and sustainable use in an equitable way, or the ‘wise use’ concept of the Ramsar Convention. There are numerous and evident links between UNESCO’s MaB-Programme and the CBD. However, many of the obvious restrictions for the implementation of integrated management concepts such as the MAB-Programme, the ‘wise use’ concept or the Ecosystem Approach can be traced back to the fact that necessary institutional provisions are not in place (HARTJE et al. 2003).

The strengthening of the management systems in the respective areas as a prerequisite for an improved visibility is a multi-dimensional task. According to HOCKINGS et al. (2000) the capacity to effectively manage protected areas and to deliver management efforts on the ground is based on the three principal dimensions: government system, level of resourcing and community support.



Source: Adapted from Hockings and Phillips, 1999

The following assessment of the institutional and management frameworks for three Biosphere Reserves in the CEECs also shows horizontal dimensions: national, regional and local level. Along with a biological profile of the Biosphere Reserves and following the approach by SINGH (1999), a description of the legal status in terms of legislation, responsible administrative bodies etc., and of the management status in terms of (sectoral) management plans, level and number of staff, organisational structure, level of community involvement etc. is part of the case studies' assessment. A regional socio-economic profile focusing on the role of the Biosphere Reserves and the identification of major management deficits and achievements complements the assessment.

Thus, government agencies in different sectors as well as different tiers of government were involved as partners in the assessment process. Furthermore, donors and the National MAB Committees play an important role for the implementation of the MAB concept. Local PA managers are recognised as key persons for the assessment and its design.

In addition and in order to facilitate long-term effects of the biosphere reserve management, the active involvement of local communities, NGOs with their key actors, private sector bodies involved in the management of the biosphere reserves, as well as local and regional representatives of other sectors and interests, is a crucial issue to achieve the further and sustained success of the framing project (HOCKINGS et al. 2000; GEOGHEGAN & RENARD 2002). Underlying is the perception expressed by the Second International Seminar for Managers of Biosphere Reserves (Stara Lesna 1996) that biosphere reserves "should first and foremost serve the different needs and priorities of the various stakeholders" of the respective biosphere reserve (BIORET 2001).

A "common issue of concern" (RIVERA et al. 2002) and, later on, common vision of all stakeholders across different sectors and interests and beyond the limits of the Bio-

sphere Reserves is sought as a basis for effective protected area management facilitating *inter alia* sound tourism development. It would be a major success if this study could lay a comprehensive foundation for the development of this common vision in the case studies' Biosphere Reserves.

1.2 Methodology

This assessment of the institutional and management frameworks for the above mentioned Biosphere Reserves in Hungary, the Czech Republic and Poland starts with a description of the international framework for biosphere reserves and sound tourism development and a rough assessment of framing conditions for nature conservation in Hungary, the Czech Republic and Poland (chapter 2). The goal of this chapter is to illustrate the internationally agreed framework on the interlinkage between biodiversity conservation and sound tourism development as provided by UNESCO and the Convention on Biological Diversity (CBD) and to characterise the framing conditions for nature protection policy in the three CEECs.

Subsequently, the analysis is based on the three case studies from biosphere reserves, whereby main emphasis was put on the presentation of relevant national legislation, policies and institutional set-ups, the assessment of the management framework and the efforts for cross-boundary cooperation. Resulting achievements, existing conflicts and remaining deficits bundle the results of the assessments (chapter 3). The presentation of the case studies is mainly based on the examination of national studies that have recently been carried out on behalf of Ecological Tourism in Europe (ETE) (DABROWSKI 2006; KOVÁCS 2006; URBAN 2006). These findings are complemented with the results of the OECD Country Environmental Performance Series (OECD 2000b/c; OECD 2003; OECD 2005) and other additional material.

Chapter 4 is introduced by a synthesis of the case studies assessed and followed by the discussion of some cross-cutting general and analytical topics: i) awareness and understanding of the Seville Strategy, ii) instruments for the implementation of the Seville Strategy, iii) structural and inter-sector issues in administration and management, iv) tourism related issues, and v) participation and capacity building needs.

The final step of the analysis (chapter 5) is a brief description of potentials of and challenges for the further implementation of the MAB Programme in the CEECs also providing recommendations and guidelines for improved biosphere reserve management and sound tourism development in the three countries.

2 Background

2.1 UNESCO 'Man and the Biosphere' Programme

In the face of increasing global environmental problems and the impact of human activities on Earth's nature, in 1970 the United Nations Educational, Scientific and Cultural Organization (UNESCO) initiated a programme on 'Man and the Biosphere' (MAB). It is aiming at the implementation of models for the careful cultivation of the biosphere integrating nature conservation and sustainable use. A world-wide network of representative natural and cultural landscapes, the Biosphere Reserves (BRs), should serve as the basis for the further refinement and implementation of the concept facilitating information exchange on conservation and management. In 2005, globally there were 482 BRs in 102 countries.

The original functions of BRs were to conserve biodiversity and give facilities for research, education and training. In 1984, UNESCO produced an action plan which expanded the BR concept in which sites were also defined in terms of the sustainable development value.

Thus, the MAB programme is in line with the concept of sustainable development adopted by the United Nations Conference on Environment and Development (UNCED; Rio de Janeiro 1992). The concept supports the objective of UNESCO to align the long-term conservation of natural resources with the improvement of human social and economic well-being. In 2005, 144 countries were parties to the MAB Programme having established National MAB Committees for the implementation of the programme.

The International Co-ordinating Council (ICC) is the responsible body for the organisation, planning and co-ordination of the MAB Programme. The National Committees appointed by the governments of the parties form the backbone of the MAB Programme by supporting its further development and implementing it into national action programmes.

In 1995, the Seville Strategy for Biosphere Reserves and the Statutory Framework for the World Network of Biosphere Reserves (see Annex 2) were adopted by the UNESCO General Conference recommending the action to be taken for the future development of BRs in the 21st Century. The Strategy provides recommendations for effectively developing BRs addressing different political levels, and sets out the conditions for their appropriate functioning. The goals and objectives within and between

the Statutory Framework and the Strategy are interlinked. The “Seville+5” international meeting of experts (Pamplona 2000) took stock of the implementation of the Strategy and elaborated the Seville+5 recommendations addressing the MAB National Committees, the regional biosphere reserve networks, the biosphere reserve management and the MAB Secretariat (UNESCO 2001).

BRs must meet a minimum set of criteria and adhere to a minimum set of conditions before being added to the network. They are nominated by national governments, through the national MAB Committee, and designated by UNESCO according to the internationally agreed Statutory Framework. According to its objectives, “biosphere reserves are established to promote and demonstrate a balanced relationship between humans and the biosphere.” Each reserve is identified to fulfil three basic functions, which are complementary and mutually reinforcing:

- a conservation function to preserve genetic resources, species, ecosystems and landscapes;
- a development function to foster sustainable economic and human developments, and
- a logistic support function to support demonstration projects

BRs not only serve the conservation and maintenance of specific ecosystems but also international ecosystem research, sustainable land use and education for sustainable development. According to human influences, Biosphere reserves are organised into three interrelated zones: core area, buffer zone and transition area. Core areas need to be legally established to fulfil their long-term conservation function. Buffer zones should help to protect the core area, e.g. through experimental research, for example to discover ways to manage natural resources, to enhance high quality production while conserving natural processes and biodiversity, or to conduct experiments for the rehabilitation of degraded areas. It may accommodate education, training, tourism and recreation facilities. The transition area is extending co-operation outwards and may contain a variety of agricultural activities, settlements and other uses.

2.2 UNEP/CBD ‘Guidelines on Biodiversity and Tourism Development’

In 2000, the fifth Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) accepted the invitation to participate in the international work pro-

gramme on sustainable tourism development under the Commission on Sustainable Development (CSD)² process (Decision V/25).

A first draft of the international guidelines for activities related to sustainable tourism development in vulnerable ecosystems was produced during the CBD workshop on biological diversity and tourism (Santo Domingo 2001). After consultations with interested stakeholders and revision by the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), the final version of the Guidelines on Biodiversity and Tourism Development were adopted by CBD's COP-7 (Kuala Lumpur 2004; Decision VII/14).

COP-7 also requested the Executive Secretary of the CBD to develop a user's manual, checklists, and a glossary and definitions of technical terms used in the Guidelines in order to increase clarity and facilitate the detailed understanding of the guidelines and the implementation by Parties. Draft versions of the user's manual and the glossary of terms were open for comments in 2005 and the final versions will be submitted to COP-8 in 2006.

The Guidelines are intended to assist Parties to the CBD and other relevant authorities and stakeholders to apply the provisions of the CBD to the sustainable development and management of tourism policies, strategies, projects and activities. They should help to develop tourism activities in consistency with the primary objectives of the CBD.

However, the Guidelines are a voluntary framework which does not constitute a set of goals and objectives for the policy-making, development planning or management process for tourism activities but rather provide "a range of opportunities for local, regional, national governments, indigenous and local communities and other stakeholders to manage tourism activities in an ecological, economic and socially sustainable manner" (quote from the Guidelines' text).

2.3 Interlinkage of concepts

When searching for the conceptual link between the biosphere reserve concept, promoted by the UNESCO-MAB Programme and through the World Network of Biosphere Reserves, and the Guidelines on Biodiversity and Tourism Development, developed under the Convention on Biological Diversity, one has to consider the commonalities in the overall objectives of the MAB Programme and the CBD, as well as the convergence in their implementation concepts, namely the Seville Strategy for

² The CSD was established by the UN General Assembly in 1992 to ensure effective follow-up of the UNCED in particular by reviewing the progress in the implementation of Agenda 21 and the Rio Declaration on Environment and Development.

Biosphere Reserves and the CBD's Ecosystem Approach (see Annex 1) . The Statutory Framework of the World Network of Biosphere Reserves, outlining the criteria and designation procedure for biosphere reserves, and the Guidelines on Biodiversity and Tourism Development formulate guiding principles for the implementation of the respective agreements (see fig. 1).

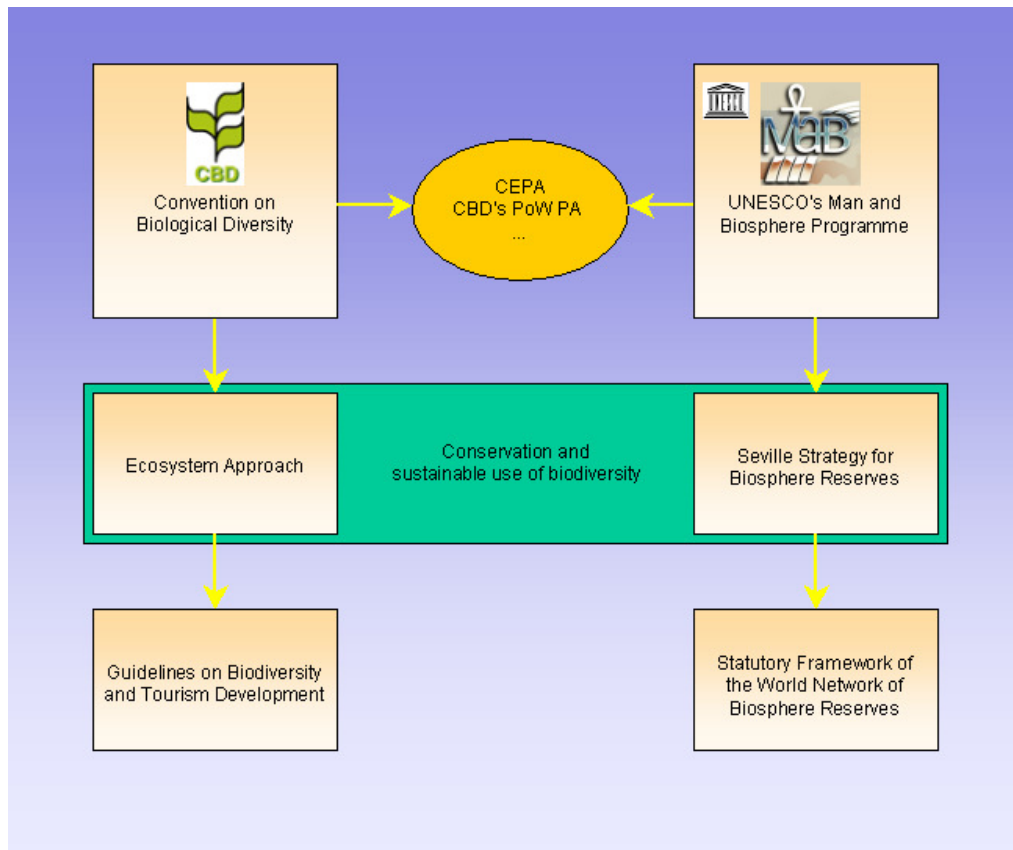


Fig. 1: Interlinkage of the Convention on Biological Diversity and UNESCO's MAB Programme

Interlinkage of the MAB Programme and the CBD

The overall goal of UNESCO's MAB Programme is the development of a scientific basis for the sustainable use and conservation of biological diversity, and for the improvement of the relationship between people and their environment globally. It aims at supporting the implementation of the Agenda 21 and related Conventions, in particular the CBD (see homepage MAB Programme).

The three primary objectives of the CBD are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. According to Art. 5 of the Convention, Parties shall "(...) develop national strategies, plans or programmes for the

conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes (...)" Art. 13.

Albeit the emphasis of the Programme and the Convention differ, parallels are obvious. Given this evident convergence, the MAB Secretariat and the Secretariat of the CBD Executive established institutionalised collaborative links. In 2000, a CBD-UNESCO Consultative Group of Experts on Biological Diversity Public Education and Awareness convened in Paris for its first meeting. CBD and UNESCO are partners in the global initiative on Communication, Education, and Public Awareness (CEPA) promoting understanding among the public on biological diversity and the measures required for its conservation. The MAB Programme is one of the partners for the implementation of the CBD's Programme of Work on Protected Areas (Dec. VII/28).

Interlinkage of the Seville Strategy for Biosphere Reserves and the CBD's Ecosystem Approach

The Seville Strategy for Biosphere Reserves and the Ecosystem Approach of the CBD can be considered as implementation guidelines for the MAB Programme and the CBD respectively.

When the Seville Strategy for Biosphere Reserves was adopted in 1995, the Ecosystem Approach of the CBD was still in its infancy. In 2000, however, the MAB Secretariat published an explanatory brochure on the relation of the two concepts titled 'Solving the Puzzle: The Ecosystem Approach and Biosphere Reserves' (UNESCO 2000). The MAB Secretariat highlights the convergence of the concepts expressed in the three primary goals and their subsidiary objectives of the Strategy, and in the 12 principles and five operational guidelines of the EsA. According to UNESCO (2000), the three primary goals of the Seville Strategy are to use BRs:

1. for the identification and conservation of natural and cultural diversity;
2. as models of land management and of approaches to sustainable development, using appropriate incentives;
3. for research, monitoring, education and training.

These goals and their subsidiary objectives can be considered as global application of the Ecosystem Approach (UNESCO 2000).

The CBD's Ecosystem Approach was endorsed by the General Assembly of the United Nations in its Special Session in June 1997. CBD's COP-5 (Nairobi, 2000) agreed on the description, consisting of 12 principles and five operational guidelines (see Annex 1), and COP-7 (Kuala Lumpur, 2004) added annotations to the rationales of the principles and implementation guidelines to satisfy the need of the Parties for further guidance.

According to the principles of the EsA, nature conservation policy is located in a field determined by site-specific ecological conditions and socially defined goals and objectives (principle 1), which requires the involvement of local stakeholders (principle 2) and the consideration of neighbouring socio-ecological systems (principle 3). Sustainable behaviour must be economically rewarded (principle 4), whereby this behaviour should mainly be oriented towards maintaining ecosystem functions and structures (principle 5) considering existing natural and social conditions (principle 6). The framing conditions must be analysed on the appropriate spatial and temporal scale (principle 7) taking into account that ecosystem processes are characterised by long-term and long-range effects (principle 8), as well as by non-linearity and the inherent dynamic of change (principle 9). These are the framing conditions for the local integration of conservation and use of biodiversity (principle 10). For the achievement of these objectives, all forms of relevant information should be assessed (principle 11) and all necessary expertise and stakeholders should be involved (principle 12).

Tab. 1: Comparison of implementation concepts for CBD and MAB

	Ecosystem Approach (see YAFFEE 1999)	Seville Strategy
Goal	Promote ecological integrity while allowing human use on a sustainable basis.	Promote solutions to reconcile the conservation of biodiversity and biological resources with their sustainable use.
Primary biotic focus	Species and ecosystems; composition, structure, and function.	Preservation of the integrity of ecosystems; mosaic of ecological systems representative of major biogeographic regions
Spatial focus / boundary	Consideration of ecologically relevant boundaries.	Consideration of ecologically relevant boundaries, including a gradation of human interventions.
Key principles	Ecosystem as a metaphor for holistic thinking; systems perspective; spatial and temporal scale; ecosystem complexity and dynamism; collaborative decision making; explicit consideration of uncertainty; inter organisational cooperation.	Management of a mosaic of terrestrial, aquatic or marine ecosystems in relation to their socio-economic and cultural environment; development needs of local communities; information exchange; scientific research and monitoring; stakeholder involvement; international collaboration.
Concept of ecosystem	Construct that matches the problem at hand; focus on sets of interactions dominated by biotic elements.	Open but coherent system; focus on sets of interactions between physical, cultural and socio-economic systems.
Ethical precepts	bio-centric	anthropo-centric

The concept of the CBD's Ecosystem Approach has many shared concerns with the biosphere reserve concept, however, the focus of the Seville Strategy differs from the CBD's Ecosystem Approach as it emphasises the human perspective promoting issues such as research, environmental education and cultural affairs (see tab. 1). The CBD's online Ecosystem Approach Sourcebook lists BRs as one of the tools which can be used to meet the EsA principles (www.biodiv.org/programmes/cross-cutting/ecosystem/sourcebook/tools.shtml). Insofar, the global network of BRs appears to provide most valuable experiences for an improved implementation of the CBD objectives (GÜNDLING 2002).

2.4 National frameworks for the implementation of the UNESCO-MAB Programme

While this introductory paragraph is not intending to go into depth with particular characteristics of individual Central and Eastern European countries (CEECs), some general conclusions concerning characteristics of the framework for nature conservation policy in the CEECs can be presented here from a series of workshops focused on capacity-building for biodiversity (KORN et al. 2004a/b; 2005). The participants of the workshops identified and intensively discussed four thematic clusters closely connected to the general conditions of societies in the CEECs:

1. Intersectoral aspects, integrated policy formulation and implementation
2. Sustainable use
3. Public awareness and participation
4. Law enforcement

Two observations, which were not explicitly mentioned in the workshops but highlighted in the scope of other studies, provide the background for these general conclusions and ease the understanding of the special situation in the CEECs:

Law application and enforcement of existing regulations is still weak in the CEECs (OECD 2000a).

Corruption in the CEECs is a severe problem for the enforcement of environmental legislation. Initiatives such as the 'clean hands' campaign in the Czech Republic are important in restoring confidence. One reason for the problem is the low salary paid to civil servants (ECOTEC 2001).

Since the beginning of the 1990s and in the course of their transformation process, most CEECs have substantially reduced environmental pressures and achieved tangible environmental results, in addition to those attributable to the decline of economic activities such as industry and agriculture. Basic administrative structures are mostly in place, however, effective enforcement mostly has a long way to go. In preparation

of the 2003 Ministerial Meeting 'Environment for Europe' in Kyiv, the NGO CEEWEB compiled an analysis on the implementation of multi-lateral environmental agreements (MEAs), inter alia the CBD, in the CEECs (CEEWEB 2003). The overall conclusion of the study was that the bottleneck for successful and effective implementation of MEAs in the CEECs is the lack of human and financial resources, which is supported by the findings of an earlier study concerning administrative capacities for the implementation and enforcement of EU environment policy in candidate countries (ECOTEC 2001). As underlying reasons for the low recognition of nature conservation issues in the CEECs, CEEWEB identified:

- Weak political will and commitment of decision-makers
- Weak integration of nature conservation issues in sector policies
- Lack of cooperation with non-governmental sector
- Lack of monitoring systems and up-to-date information on different components of biodiversity
- Lack of active participation and public awareness

Furthermore, there is a considerable development pressure with respect to infrastructure to attract foreign investments and to increase economic growth.

In the following, a short outline of the particular national frameworks for nature conservation in the countries hosting the case study BRs is given to clarify the general background for the management of Biosphere Reserves in these countries.

2.4.1 Czech Republic

Czechoslovakia (later divided to the two independent states – Czech Republic and Slovakia) was among the founders of the United Nations Organisation and was one of the first twenty countries that ratified the Constitution of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in December 1945. Five years after the start of UNESCO's Man and Biosphere (MAB) Programme in 1971, the Czechoslovakian National MAB Committee had selected the first three Czechoslovak Biosphere Reserves which were declared by UNESCO in 1977.

Immediately after the fall of communist regime in the country and after the establishment of the Ministry of Environment, conservationists started to prepare the new Czech Nature Conservation and Landscape Protection Act. However, hasty adoption of environmental legislation in the first half of the 1990s caused some imperfections and was followed by a period that was rather dedicated to the formation of two sovereign states out of former Czechoslovakia than on progressing with the improvement of

environmental legislation (CZECH MINISTRY OF ENVIRONMENT 1998). After the accession of the Czech Republic to the European Union in May 2004, the Act was amended due to the EU programme Natura 2000, which had to be integrated into the legal system of the Czech Republic. However, there is still no legal support to biosphere reserves in the amended law (URBAN 2006).

The State Environmental Policy 2004 (SEP), the principal document for Czech environmental policy, includes protecting nature and biodiversity among its top priorities. A National Biodiversity Strategy has been finished in 2005. It is essential for implementing the Convention on Biological Diversity and for developing a system for monitoring the state of biodiversity, indicators, new tools for safeguarding unprotected areas and extensive biodiversity policies for forestry (OECD 2005).

The 1998 State Nature Conservation and Landscape Protection Programme is the Czech Republic's main programme for protecting biodiversity. It defines 41 priority tasks, for which action plans and operational tasks were developed (e.g. management plans for protected areas, fauna and flora rescue programmes). A new State Nature Conservation and Landscape Protection Programme is under preparation (OECD 2005).

The State Tourism Policy 2002-2007 of the Czech Republic picks up the idea of sustainable tourism. Currently, the Ministry of the Environment is developing an Action Plan for Sustainable Tourism in the frame of the National Biodiversity Strategy. It will describe objectives, means and indicators relating to sustainable tourism, and will contain actions for Specially Protected Areas. The Czech Republic is promoting the creation of a national system of certification of environmentally sound tourism services (OECD 2005).

However, "direct destruction or gradual disappearance of valuable ecosystems continues. (...) The integration of biodiversity and nature protection concerns into sectoral policies is to be improved. (...) A strategy for sustainable tourism should be prepared. Scientific and technical capacities for protecting biodiversity and nature conservation are not commensurate to the pressures from development." Thus, the 2005 OECD Environmental Performance Review identifies nature protection and the protection of landscapes and biodiversity as one of the priority environmental challenges. To meet these challenges, the Czech Republic will need to strengthen its environmental efforts in the implementation of environmental policies and to further integrate environmental concerns into economic and social decisions." (OECD 2005)

2.4.2 Hungary

In Hungary, the transition to the market economy was marked by a return to democracy and preparation for accession to the European Union. Similar to other Central and Eastern European countries, it has been accompanied with fast and deep changes in every segment of society and economy. Environmental pressures have been substantially reduced. Due to the highest levels of foreign direct investment among Central and Eastern European countries, outdated industrial facilities have been replaced by modern ones. While in the late 1980s, intensive fertiliser use from large-scale and intensive farming has had considerable effects on habitats and on biodiversity, in the 1990s, the use of mineral and organic fertilisers has fallen drastically and organic and integrated farming is developing. Between 1994 and 1997, as a result of privatisation, the share of total agricultural area cultivated by collective and State farms decreased from 56 per cent to 42 per cent. This division of large farms into smaller private holdings has led to positive landscape changes (OECD 2000b). After the fall of the communist regime, six new National Parks were created in Hungary (KOVÁCS 2006).

However, the increase in the extent of roads and motorways throughout the country has created barriers for migrating species by splitting biotopes and corridors. Water resource management has also had some negative impacts on biodiversity. With the regulation of the main streams, most of the flood plain forests have disappeared and been replaced by softwood tree plantations and farmland (OECD 2000b). Similar to old EU member states, rather diffuse small scale industrial, agricultural and household polluters threaten the state of the environment in today's Hungary (KOVÁCS 2006).

The issues of biodiversity and the environment gained considerable attention in the legislation process in Hungary. Nature conservation legislation has developed rapidly since the mid-1990s. The ratification of the Convention of Biological Diversity in 1994 put further emphasis on the importance of nature protection and the environment. "The 1996 Nature Conservation Act is based on the 1994 National Environment and Nature Protection Concept and refers to all natural values and areas. The 1996 Act on Forests and Forest Protection, and the 1996 Act on Protection of Game, Game Management and Hunting identify actions needed to conserve biodiversity. The 1994 Agricultural Land Act states that consideration must be given to the protection of Hungary's natural and semi-natural areas, e.g. residual vegetation patches, natural water bodies, geomorphologic formations, etc. It also requires farmers to protect land from erosion and acidification." (OECD 2000b) The first National Environmental Programme was adopted by Parliament in 1997. Since 1997 and during the pre-accession phase, all major laws of biodiversity, nature and environmental protection have been

amended and updated in the course of harmonisation to the EU environmental *acquis* (KOVÁCS 2006).

The 2000 OECD Environmental Performance Review recommends *inter alia*, that, notwithstanding legislative and institutional achievements, a National Biodiversity Strategy with associated Action Plans should be put in place, the share of territory designated as nature protection areas should be increased, the integration of nature conservation issues into sectoral policies should be improved, and educational efforts concerning nature conservation, by addressing professional and social groups should be expanded through e.g. the development of visitors centres and nature trails. „Better integration of nature conservation objectives in agricultural, regional development, transport and tourism policies is paramount. “ (OECD 2000b)

2.4.3 Poland

Poland was amongst the countries which signed the UNESCO Constitution in London in 1945. The net of Biosphere Reserves has been developed in Poland since 1977, when four already existing protected areas: Babia Góra National Park, Białowieża National Park, Slowinski National Park and Luknajno Nature Reserve were recognised as Biosphere Reserves (DABROWSKI 2006).

In its 2nd National Environmental Policy, Poland has included the target to adopt a National Strategy for the Protection and Rational Use of Biological Diversity. In 2003, this strategy was confirmed by the Polish Government including an Action Programme for the period 2003-2006. The Action Programme defines a series of tasks, *inter alia* concerning tourism development, stating that “guidelines as regards making vulnerable areas and objects (including mountains and the seashore) available for tourism“ as well as „a programme for the development of tourist infrastructure in protected areas“ should be devised (POLISH MINISTRY OF THE ENVIRONMENT 2003). This could be seen as a reaction on the 1995 OECD Environmental Performance Review’s recommendation to „develop rural and nature tourism to provide economic development and environmental protection in relevant areas“ (OECD 1995).

No doubt, Poland has set very ambitious goals in its environmental policy and achievements are impressive. Protected areas have increased significantly and covered 9.7 per cent of the country (32 per cent if Protected Landscape Areas are included) in 2003. Since 1990 total protected area has increased by over two-thirds (OECD 2003). However, Poland’s transition to market economy triggered large-scale land use changes and EU accession may support major infrastructure projects in the near future. Both might impact significantly on biodiversity as intensification of agriculture and increased dissection of landscapes threaten structure and functioning of eco-

systems. The Third National Report on the implementation of the Convention on Biological Diversity states that “in Poland targets of road network development, hydro-technical development of rivers, development of mass tourism are in conflict with the targets of biological diversity conservation.” (POLISH MINISTRY OF THE ENVIRONMENT 2005) Furthermore, consultations on the integration of biodiversity conservation strategies with other sector policies can mostly be found on national level, but are seldom reported from the local level. Local resistance to the designation of Natura 2000 sites outside already protected areas seemed to be underestimated (OECD 2003).

According to the 2003 OECD Environmental Performance Review, the new Polish Constitution of 1997, the Second National Environmental Policy of 2000 and the Environmental Protection Act of 2001 broadened the perspective of nature conservation and biodiversity policy beyond protected areas. The Environmental Protection Act e.g. provides that restrictions applying in protected areas shall be reflected in local land-use planning. The National Strategy for the Protection and Sustainable Use of Biological Diversity with its associated Action Programme should provide the appropriate mechanisms for translating the general objectives defined in the Environmental Protection Act into implementation programmes. “The challenge in following through with implementation will be to sustain the principle that the quality of biodiversity is the responsibility of policy makers and actors in all sectors. (...) It will be necessary to develop continuing institutional mechanisms horizontally and at all administrative levels, to ensure that the national strategy is fully implemented.” (OECD 2003)

3 Assessment of the Biosphere Reserves involved



Fig. 2: Location of biosphere reserves involved

3.1 Šumava Biosphere Reserve, Czech Republic

Ecological and economic issues

The Šumava Biosphere Reserve includes a substantial part of the north-eastern portion of the Bohemian Forest³, a large Hercynian middle-mountain range to the north of the Alps, almost at the geographical centre of Europe. The main mountain ridge straddles the border between Czech Republic and Germany, or Austria respectively (see

³ Bohemian Forest, Šumava and Šumava Mountains/Mts. are used simultaneously in the text below to describe the same area.

fig. 2). Together with the Bavarian Forest and the Forest of the Upper Palatinate, the Bohemian Forest forms the most extensive continuous forest of Central Europe. Three principal zonal vegetation units can be distinguished: belts of species-rich beech forests, acidic montane beech forests, and climax spruce forests. Forests, meadows and pastures as well as bogs are characteristic of Šumava (UNESCO-MAB 2006).

The Šumava Biosphere Reserve covers an area of about 167,000 ha. It varies in altitude from 490 m in the north-western corner of the reserve, where the Uhlava river leaves the area, up to the summit of Plechy (1,378 m a.s.l.) on the Austrian border in the south-eastern part of the reserve. The climate in the Šumava region is generally continental but under rather strong influence of the oceanic climate. The annual totals of precipitation depend on the altitude and situation, ranging from 700 mm/a in valleys in the rain-shadow of the north-eastern part of the mountains, to about 1,500 mm/a on the border summits between the Šumava and the Bavarian Forest. Maximum snow depth in winter can exceed 200 cm (URBAN 2006).

Almost the entire area of the Šumava Biosphere Reserve belongs to the Labe/Elbe drainage system, while the Bavarian and Austrian side of the mountains belong to the Danube catchment area. There are five glacial lakes in the Šumava, remnants of local glaciers which existed in the area some 12,000 years (and more) ago (URBAN 2006).

Forests cover about 81% of the total area of the BR, with spruce (*Picea abies*) representing the pre-dominant species in wide parts. However, there are also some natural mixed beech-spruce-fir forests dominated by *Fagus sylvatica*, *Picea abies* and *Abies alba*. There is no natural timber-line at the Šumava, alpine meadows are missing. The Šumava Peatlands were designated as a Ramsar site in 1993, including mountain raised bogs, valley bogs, waterlogged spruce forests and riparian wetlands of the River Vltava (UNESCO-MAB 2006).

The fauna of the Šumava mountains is similar to other woodland areas in Central European mountains. Large forest complexes enable the survival of many native species of animals, birds and also invertebrates, which disappeared in other parts of the Czech Republic. Relatively harsh climate conditions at higher altitudes together with numerous mires support a number of boreal and even glacial relicts among plant and animal species, especially among insects. The European red deer (*Cervus elaphus*) and roe deer (*Capreolus capreolus*) are very common, wild boar (*Sus scrofa*) is abundant especially in lower parts of the reserve. Lynx (*Lynx lynx*) was successfully reintroduced in 1980s. The fish otter (*Lutra lutra*) is not rare along water streams (URBAN 2006).

After the fall of the "Iron Curtain" in the late 1980s and the designation of the Šumava National Park in 1991, the economic situation in the region has undergone rapid

changes. In the period before the establishment of the National Park, people made their living mainly from work for state farms, state forestry and from a few industrial enterprises (glass factories, saw mills and some alimentary production), besides of administrative work, education and military service. Tourism had been developed only in marginal areas and places within a certain distance from the state border. After 1991, while most of the industrial enterprises were closed, state farms were privatised and most of the non-profitable land was abandoned, tourism multiplied. There is a real and continuing boom in tourism: at present, the estimated number of visitor days exceeds 2 million per year in the National Park only. Tourists are attracted by the National Park and the Protected Landscape Area as well, that both form the core of the region and provide for numerous opportunities for recreation and environmental education to locals and tourists. Many old neglected buildings have been reconstructed for hostels, weekend houses are rented through travel agencies, restaurants and accommodation facilities of different level were opened. The National Park invested in the improvement of roads and the construction of information centres. In cooperation with communes and other institutions and with international financial aid, some 500 km of hiking trails, 350 km of biking trails, and over 320 km of cross-country skiing trails were built or improved. Biking from spring to autumn, cross-country skiing in winter – these are the most popular activities for visitors to the BR Šumava (URBAN 2006).

The development of tourism is perceived as an attempt to bring persistent benefit and prosperity to the Šumava region, which has already become one of the most popular recreation destinations in Central Europe. For its long-term perspective and the survival of tourism industries, a sophisticated management is needed for those phenomena which it is exploiting commercially (URBAN 2006).

Existing policies and legislation

The current principle document for the Czech environmental policy is the State Environmental Policy (SEP) for the period 2004-2010. It defines the targets of Czech environmental policy for priority areas, *inter alia* for nature conservation as well as for the protection of landscapes and biodiversity. This priority area comprises individual targets and measures for e.g. the protection of biological diversity on the level of habitats, for the protection of endangered species of fauna and flora, and for improving the ecological stability of landscapes. Additionally, the priority area 'sustainable land use' of the SEP is concerned with the minimisation of human impacts on valuable agricultural and natural lands through e.g. introduction of landscape plans or sustainable landscape management supporting environmental sound forms of tourism (CZECH MINISTRY OF ENVIRONMENT 2004).

With regards to sector policies, chapter 9 of the SEP identifies environmental measures in the field of tourism development. A comprehensive list of recommendations for sound tourism development is provided tackling issues such as (CZECH MINISTRY OF ENVIRONMENT 2004):

- Monitoring of tourism development effects using indicators
- Promotion of the development of sound, environmentally acceptable forms of tourism
- Creation of a network of regional centres for environmentally sound tourism
- Creation of a National System of Certification of Environmentally Sound Tourism Services
- Implementation of the principles of the “European Charter for Sustainable Tourism in Protected Areas”
- Development of rural tourism, eco-tourism and eco-agro-tourism; environmental education

The 1998 State Nature Conservation and Landscape Protection Programme further refines SEP’s targets and measures with regards to nature conservation. It defines 41 priority tasks for achieving the State Programme’s medium and long-term goals and identifies legislative tasks to cope with EU’s environmental *acquis* as well as to correct some shortcomings and inconsistencies in national environmental legislation. However, the State Programme is not just a sectoral strategy. It was adopted by the whole government and integrated into activities of other sector policies such as agriculture, forest and water management, physical planning, regional development and tourism (CZECH MINISTRY OF ENVIRONMENT 1998).

In the Czech environmental legislation, Biosphere Reserves are not recognised as a legal category for protected areas. The Nature Conservation and Landscape Protection Act does not include Biosphere Reserves when defining six national protected area categories: national park, protected landscape area, national nature reserve, national nature monument, nature reserve and nature monument. Thus, Biosphere Reserves are rather perceived as an international label beyond direct influence of Czech governmental bodies, that do not deserve support from national legislation, and the benefit of Czech protected areas designated as Biosphere Reserves is a more symbolic one. Advantages might be generated from the enhanced possibility of consulting with experts through the MAB National Committee and of systematically supported scientific research, from better access to international projects, and from the exchange of ideas through the international network of Biosphere Reserves (URBAN 2006).

The declaration of the Biosphere Reserve Šumava in 1990 would have been impossible without the former establishment of a Protected Landscape Area (PLA) as the existence of a protected area of any kind is still one of the preconditions for the establishment of a biosphere reserve. The PLA Šumava was declared by issue of the Ministry of Schools and Culture in 1963. Soon after the declaration of the Biosphere Reserve Šumava, the National Park Šumava was established by the Czech Government in 1991. It was established on core areas of the PLA, least inhabited and mostly covered by forests thus covering only a part of the PLA (69,030 ha), while the rest of PLA covers 98,255 ha and serves also as buffer zone to the NP. The mission of the new national park is described in §2 of the Decree: "To maintain and improve its natural environment, especially as regards the protection and the renewal of the self-management functions of the natural systems, strict protection of animals living at large and of wild plants, to maintain the typical appearance of the landscape, meet the set of scientific and educational aims and use the area of the National Park for tourism and recreation without endangering the environment" (URBAN 2006).

Institutional framework

The area of the BR Šumava is part of the EUROREGION Šumava (<http://www.euregio.cz>) including communities, cities and administrative districts along the borderline of Bavaria, the Czech Republic and Austria. The EUROREGION Šumava's tasks are to improve transboundary cooperation and infrastructure as well as crossborder cooperation in the fields of economy and transfer, employment, tourism, agriculture and forestry, ecology and nature protection, education, sports and culture.

On the Czech side, the region is administered by two regional offices: the north-western part of the BR belongs to the Pilsen Region (Plzensky kraj), while the south-eastern part is administered from České Budejovice as a part of the South-Bohemian Region (Jihocesky kraj). Each region disposes of a Regional Development Agency (RRA for Pilsen, RERA Inc. for South Bohemia), dedicated to contribute to the coordination of projects for the economic and social transformation of the region to regional development by way of e.g. providing information services or participating in the establishment and development of regional policy, using the resources of the European Union international assistance funds (PHARE, bilateral assistance), public national sources, those of districts and communities and some private funding. The Regional Development Agencies play a crucial role in supporting and enhancing the cooperation between the different interest groups in the region. In this context, the Regional Development Agency Šumava Stachy is particularly worth mentioning as one of the key stakeholders for regional development in the area.

The communities within and in the neighbourhood of the BR Šumava recently formed so-called 'micro-regions'. Main functions are the coordination of development efforts and the cooperation on strategic planning (URBAN 2006).

The BR Šumava does not dispose of a management unit nor of staff. The basic tasks (e.g. data collecting, representation in the frame of events initiated by the MAB programme, etc.) are performed by the staff of the Šumava NP and PLA authorities, which also provide the necessary management tools. The Czech National MAB Committee is in regular contact with the responsible members of staff at the local (NP, PLA) and national (Ministry of Environment) level and provides some logistic support. (CIHAR et al. 2002; URBAN 2006).

In the Czech Republic, national parks are attached to the Ministry of the Environment and their administrations are established by the Ministry. The director of a national park is appointed by the minister. Following the nature conservation law, national park administrations have the right to manage forests within the park and is responsible for forestry, hunting, fishing and nature conservation in the whole area of the NP. In the NP Šumava administration, a couple of staff members are even specialised in tourism-related matters (URBAN 2006).

According the Nature Conservation Law, the director of the NP nominates the Board of the National Park, which is divided into the two sections: the Regional Section of the Board consists of the representatives of the all communes (mostly of the mayors of the municipalities) within the NP area. It also includes representatives from important stakeholder groups: Czech Tourist Association, Police of the Czech Republic, Mountain Emergency Service, entrepreneurs in tourism, agriculture and local industry. The Scientific Section of the Board consists of experts in natural science, forestry, public relations etc. The Board has 55 members and meets at least twice a year. An Executive Committee of the Board meets every month (URBAN 2006).

Management framework

In the late 1980s and early 1990s, the wider area of Šumava was subject to territorial planning. The resulting territorial plan of the Great Area Unit (VUC) Šumava was finished in 1991 and approved by Government of the Czech Republic by Decree No. 352 of 13.5.1992. It provides a detailed analyses of the area and an overview of the natural, social and economic conditions in the area. Its basic assumptions, however, are outdated nowadays as the economic situation changed completely since then. Apart from these fundamental restrictions, the plan offers some valuable insights and visions (URBAN 2006):

- Priority function of the area is nature conservation and landscape protection. Economic activities – including tourism development - should be regulated considering this priority.
- In future, tourism and recreational services will be prevailing economic activities in the region, while forestry, cattle breeding, minor local industry (esp. building) and other services will complete the economical background.
- The integration of nature conservation and tourism development is crucial for the sustainable development of the region.
- Existing settlements in the area should be revitalised to support their stabilization and development as a bases for tourism development.

While the outdated territorial plan of the Great Area Unit is still in effect, the communities in the vicinity of and within the BR Šumava already reacted on the modified framing conditions and established the above mentioned six 'micro-regions' that substantially differ from the 15 spatial planning units defined within the territorial plan. In the frame of the micro-regions, the communities coordinate their development and cooperate on strategic planning. Tourism development is an important task in regional planning but respective spatial plans have not yet been elaborated (URBAN 2006).

The Management Plan of the Šumava NP, which will expire in 2010, is not fully accepted by the communities; the controversial subject of the plan is the NP zonation, which is rejected by some communities. According to the strategic planning, the core zone with limited human intervention should be extended from present ca. 13 per cent to 39 per cent of the total area of the park within the next five years. Another extension of the core zone is foreseen to take place later. Repeatedly, the regional authorities in Plzeň and České Budějovice have expressed their objections against extension of the core zone of the NP. Furthermore and deviant from the proposed zonation, the NP administration recently introduced the proposal for a "non-intervention area" for forest stands. Due to some ambiguities concerning the spatial distribution of "core zone" and the "non-intervention area", the new proposals are only hesitantly accepted by the communities and even rejected by the majority of the communities.

The Protected Landscape Area Šumava has prepared its own zonation, which is now to be adopted. The present zonation of the Biosphere Reserve is outdated and will be reviewed in a short period of time.

Transboundary cooperation

The cooperation between PLA Šumava and the already existing NP Bavarian Forest dates back to the year 1963. The NP Bavarian Forest supported the PLA Šumava from the beginning and helped very much in the process of the establishment and in equipping the new Czech Šumava NP. The subsequent establishment of a common working group (ARGE) raised the cooperation on an official basis. The fruitful cooperation focuses especially on information systems, exchange of management practices, building of tourist trails of all kinds and also on transport systems, where the Czech and German systems are comparable and tied to each other. The representative of the Šumava NP participates regularly in the Bavarian NP board meetings, while the director of the Bavarian NP participates in the Šumava NP board meetings as well (URBAN 2006).

The cooperation between Czech and German communities was strongly supported by the EU-PHARE Programme. Nowadays, there are many contacts on communal level established. The micro-region Šumava West and the Association of the Communes of the National Park Bavarian Forest signed an agreement on cooperation. A similar agreement was signed between the Czech micro-region Horní Vltava-Boubín and the micro-region Heidel on Bavarian side. The existence of the above mentioned EU-ROREGION Šumava, which covers the area of both biosphere reserves on the Czech and the Bavarian side, also supports transboundary cooperation in many aspects (URBAN 2006).

Conflicts

The main conflicts are centred around the pretended contradiction between nature conservation issues and economic development perspectives and on the strong position of the Šumava NP and PLA authorities in the regional development process. The NP and PLA authorities are key players in the region due to their well-equipped and well-staffed professional administrative bodies. However, the stabilisation of local municipalities and the revitalisation of local structures on all levels has brought in new players, new stakeholders and thus the dominant role of the Šumava NP and PLA authorities was put into perspective. Unfortunately, the dialogue between relevant stakeholders is still and frequently characterised by a lack of communication or a low level of communication skills respectively. This often prevents from finding better solutions contributing to the sustainable development of the region (CIHAR et al. 2002). As the administrative bodies of the protected areas are considered as agents for nature conservation objectives only, they are also perceived as stumbling blocks for the desired rapid economic development of the region by the locals.

However, this seems to be the main, but just one front line: The role of some NGOs in the area is controversial as e.g. the Czech NGO Hnutí Duha demands very strict limitations to forest management in the NP, aiming at the transformation of large parts of the NP into wilderness areas in a short period of time. These plans are opposed by many locals and accepted by only few experts. Development and interests of local communities are neglected, which is unfavourably perceived by local people and their political representation (URBAN 2006).

Achievements

Considering regional coordination, the administrative structures are in place and a number of projects are currently implemented, also with financial aid of the European Union. The establishment of the EUROREGION Šumava substantially facilitates transboundary cooperation and supports an ecologically and economically integrated perspective on the region.

Understanding the agglomeration of the National Park and Protected Landscape Area as an interlinked complex, there are some integration successes achieved in the Šumava region, even if the zonation of all protected areas in the region is considered incoherent and the zonation of the Biosphere Reserve is currently under revision (URBAN 2006). The Šumava NP accomplished a major nature protection goal by securing the natural habitats, while at the same time successfully promoting the NP as a tourist destination and developing the tourism infrastructure with considerable international financial aid. The protected forests, meadows, pastures and bogs provide a valuable basis for future ecosystem research and public education.

In the Šumava region, locals are increasingly involved in and financially benefiting from the sound tourism development. This is supported by the fact that the economic situation of the people living inside the protected areas is better than the livelihood conditions for people living in the neighborhood (URBAN, pers. com.).

Current deficits

Albeit the level of integration achieved for sustainable use and conservation is considerable, some persistent deficits remain in the ecosystem management of the Šumava region. The overall acceptance of the Šumava NP by the Czech and international public as a valuable tourism destination still seems to be contrasted by the reservations against the NP and PLA authorities by a majority of inhabitants in the communities in and around the park. Especially the Biosphere Reserve has, up to now, failed to communicate the concept of the Seville Strategy to local stakeholders (URBAN 2006). One of the major holes in the road towards a sustainable and integrated development

of the region is that there is no acting Biosphere Reserve in the Šumava region although representatives of a future BR administration might be perceived as having a more balanced view on conservation and sustainable use of ecosystems. Considering the BR as a crucial actor in linking nature conservation with e.g. sound tourism development, the establishment of an independent administrative body is of utmost urgency.

On the level of the micro-regions, spatial planning is still in its infancies. It is questionable, if the Šumava NP and the PLA authorities could fill in the role of the necessary coordinative body. On the local level, the Šumava NP and the PLA complement conservation and sustainable use of biodiversity in that region, however, congruent and harmonised management programmes and practices between these entities seem to be widely lacking, in particular in the field of sound tourism development.

The nature protection provisions of the National Park still collide to a considerable extent with the legitimate interests of communities and individuals. Conflict resolution is obviously a very demanding task for the NP authorities. Although the National Park administration has attempted to diffuse the sentiment by intensifying the dialogue with stakeholders, there are inherent restrictions to active participation for areas strictly dedicated to nature protection. Thus, in the view of the various stakeholders, the undoubted achievements in tourism development still fail to adequately recognise their economic interests.

Summing up

Without any doubt, the Šumava NP has made a major contribution to ecosystem oriented development of the region. These efforts are supported by a consistent national legislative and administrative framework for ecosystem management.

Major flaws can be detected in the interaction between National Park administration and neighbouring communities. Although the NP administration has undertaken some efforts to more closely align biodiversity conservation to regional development, a congruent approach based on broad societal support from local stakeholders is lacking. This might be due to the fact that the National Park is not perceived as an agent for regional development but as an advocate for nature conservation.

3.2 Aggtelek Biosphere Reserve, Hungary

Ecological and economic issues

The Aggtelek Biosphere Reserve is situated in the north-eastern part of Hungary on a vast karst area which belongs to the southern limestone foothills of the Carpathian

Mountains. This karst area, which is divided by the border between Hungary and Slovakia, is a geographically homogenous region extending over 60,000 ha and containing more than 700 caves. "Their morphological diversity, characteristic fauna as well as archaeological and historical value make this cave system one of the most complex examples of karstic phenomena occurring at medium altitude in the temperate zone. The karst landscape is dominated by extensive karst plateaus with dolines and valleys with permanent or temporary watercourses, which disappear in sinkholes." The major ecosystem type is the temperate broad-leaf forest (UNESCO-MAB 2006).

The Aggtelek Biosphere Reserve covers an area of about 20,187 ha. Variation in altitude reaches from 150 to 600 m a.s.l.. Hungary's climate in the Carpathian Basin is influenced by the oceanic climate from the North, the Mediterranean Sea in the South, and the continental climate from the East. Under the influence of the Carpathian mountains, the climate is humid continental with long summers. The average temperature in the lower regions is -3°C in January and 19°C in July. These values decrease with an increase in altitude to -7°C and 14°C, respectively. Annual rainfall totals 620 mm in the lowest and 1,000 mm in the highest part of the tablelands. Depending on the elevation, snow cover persists between 60 and 139 days (www.unep-wcmc.org).

The Aggtelek Biosphere Reserve is part of the catchment area of the Sajó River, which flows into the Tisza River, the second largest river of Hungary. Springs in the area are the surface discharge from the karst system.

There are only two small villages within the BR with a population of less than 950 people (2005) who are engaged in forestry, agriculture and livestock raising but are also miners and commuters to industrial areas. The caves have a long research history including studies on flora, fauna, speleology, geomorphology and geology. Already in 1794, the first cave was mapped (UNESCO-MAB 2006).

Aggtelek Biosphere Reserve is situated adjacent to Slovensky Kras Biosphere Reserve (Slovakia). In 1995, 'Caves of Aggtelek and Slovak Karst' have been designated as one World Heritage site. Parts of the BR, the Baradla cave system and its related wetlands, are also Ramsar wetland sites of international importance (www.ramsar.org).

Economically, the industrial crisis of the eighties initiated a downward trend in terms of employment, social security and well-being for the north-eastern area of Hungary. The collapse of industry in the country under the conditions of market economy resulted in severe unemployment and the need for an overall social and economic transformation. The emigration of the younger generation further narrows the development opportunities (KOVÁCS 2006). According to OECD's 2000 Environmental Performance Review, national investment per capita in the northern region of the country is one of

the lowest in the Hungary while population density is relatively high. The unemployment rate in this part of the country is the highest with up to 19 per cent (average is 11.5 per cent according to Regional Development Agency of Northern Hungary, <http://www.norda.hu>), particularly among the Roma population making up to 10 per cent of the inhabitants in the north-eastern part (OECD 2000b).

Even if the economic transition was fairly rapid and smooth in comparison with other Central and Eastern European countries due to high foreign investments (two times the rate of the Czech Republic, nine times the rate of Poland), its impact on the north-eastern region is drastic. Wage inequality, that is characterised by far faster increase of higher incomes and a concentration of high incomes in the Budapest region, further deepens the impact (OECD 2000b). Thus as a result of the political and economic transition of Hungary, the north-eastern region has become a marginal area in the country.

Existing policies and legislation

In 1994, nature protection was considerably strengthened by the Hungarian Constitution Court declaring that "the right to a healthy environment includes the responsibility of the Hungarian Republic that the conservation status once granted by statutory law shall not be reduced by the state." (Resolution 28/1994) This declaration referred to the accelerated privatisation of agricultural lands and forests formerly owned by the large state cooperatives. As a consequence, the Hungarian government had to devote significant funds to purchase the most endangered, most valuable lands (KOVÁCS 2006).

"The 1996 Nature Conservation Act is based on the 1994 National Environment and Nature Protection Concept and refers to all natural values and areas. The 1996 Act on Forests and Forest Protection, and the 1996 Act on Protection of Game, Game Management and Hunting identify actions needed to conserve biodiversity. The 1994 Agricultural Land Act states that consideration must be given to the protection of Hungary's natural and semi-natural areas, e.g. residual vegetation patches, natural water bodies, geomorphologic formations, etc. It also requires farmers to protect land from erosion and acidification." (OECD 2000b) The Nature Conservation Act established detailed regulations concerning nature conservation. In the focus of the law are maintenance, management and improvement of natural values and their conservation for future generations. Its objectives are to generally preserve, maintain and develop the biological diversity of natural values, areas, landscapes and their natural systems, to promote the acquisition of knowledge on and the sustainable use of natural resources, and to keep and improve the results of traditional nature conservation, also through strict protection. The following categories of protected areas were defined: national park, landscape protection region, nature conservation area, and natural monument.

Biosphere reserves are not included. Furthermore, the Law inter alia defines the planning and organisation system of nature conservation and its relationship to regional planning (KOVÁCS 2006).

Also in 1996, the Regional Development and Regional Planning Act was adopted aiming at the promotion of a balanced regional development of the country, the definition of an overall regional development policy and the establishment of an institutionalised system for regional development. Environmental protection, nature conservation and landscape conservation should (sic!) be incorporated into any process of development planning. Since its adoption the Law has been amended in 1999 and in 2004 to further define the role of regions and sub-regions and other players of regional development and to establish the institutional system for managing the Structural Funds for the period of 2007-2013 (KOVÁCS 2006).

Subsequently to the Nature Conservation Act, the first National Environmental Programme was adopted by Parliament in 1997. Since that, all major laws of biodiversity, nature and environmental protection have been amended and updated. With the second National Environmental Programme for the period of 2003-2008, Hungary tries to strengthen the sectoral and regional integration of environmental policy. Specific and operational objectives with corresponding measures, resources and responsible agencies were drafted including the measurement of progress and the organisation of the implementation phase. The attempt is to coordinate the 2nd NEP with a wide range of social, economic and sectoral policies and programmes of the country. Among others, the following documents were taken into account (KOVÁCS 2006):

- National Regional Development Concept
- The National Development Plan (NDP)
- The National Agri-Environmental Programme (NAEP)
- The Transport Policy Concept and its Action Plan
- LIFE III programme
- The Development Strategy for small and medium-sized enterprises
- The EU pre-accession funds (PHARE, ISPA and SAPARD)

During the legal harmonisation process to the EU, it was pointed out that “Hungarian legislation (on biological diversity) is more detailed, and even stricter to some extent than that of the European Community. One of the main differences between the two legal systems is that European Community legislation gives similar importance to the interests of nature conservation and public interests, including those of economic nature, while Hungarian national legislation gives priority to the interests of conservation

over economic interests. The other important difference is that European Community legislation provides very detailed implementation rules, while Hungarian legislation gives more consideration power to the administrative authorities in their decisions.” (KOVÁCS 2006)

However and despite undeniable achievements in the 1990s, further efforts are needed to improve the impact of the existing nature conservation legislation in Hungary. The enforcement of environmental laws and regulations on all administrative levels as well as the capacity of the respective administrative bodies and authorities need to be strengthened. “The challenge is (...) to implement environmental policies and to strengthen environmental infrastructure”. (OECD 2000b)

Institutional framework

The BR Aggtelek is situated in the Borsod-Abaúj-Zemplén county (<http://www.baz.hu>) with the capital Miskolc, part of the Statistical Region Northern Hungary. It is one out of five Carpathian EUROREGIONS. There are 22 municipalities in the direct surroundings of the BR.

The country has seven NUTS 2 planning and statistical regions controlled by Regional Development Councils with their Regional Development Agencies. The Regional Development Council of the region Northern Hungary is dedicated to the planning, preparation and implementation of different EU and national programmes and projects, the coordination of partnerships and expert networks, or the support of local project ideas (KOVÁCS 2006).

The role of the counties (NUTS 3) is significantly diminishing although they are the only elected bodies that provide a link between local governments and the national Parliament.

The level of sub-regions (NUTS 4) has received stronger political support during the past period. The territory of the Aggtelek BR and National Park belongs to two sub-regions (Kazincbarcika, Edelény) (KOVÁCS 2006).

Hungary disposes of a well-established nature conservation administration. The major responsible state institution for environmental protection and nature conservation is the Ministry of Environment and Water. The ministry has three main units, namely Deputy State Secretariat for Environmental Protection, for Nature Conservation, and for Water Affairs. On the regional level, the main institutions are the Inspectorates for Environmental Protection, Nature Conservation and Water Management, the Directorates for Environmental Protection and Water Management, and the National Park Directorates. After a recent administrative reform, the National Park Directorates do

not have any authority function any more and are intended to be more service and customer-oriented (KOVÁCS 2006).

In the light of privatisation, better integration of nature conservation objectives in agricultural, regional development, transport and tourism policies is paramount (OECD 2000b).

Similar to the BR Šumava in the Czech Republic, the BR Aggtelek does not dispose of a management unit nor of staff. It is represented by the Aggtelek National Park Directorate (ANPD), an independent legal entity under the supervision of the Ministry of Environment and Water. The ANPD is an independent economic unit which is governed by the rules of the central budgetary system. The NP budget is defined in the Ministry of Environment and Water in dependency of the general situation of the state budget. Additionally, the NP generates resources by itself which also contribute to its operation.

The MAB National Committee (NC) of Hungary played an important role in the coordination of national research efforts and in the dissemination of its results in the early phase of the MAB Programme. Among the members of the Committee were the representatives of the most interested research institutions and authorities. During the 1980s and 1990s, however, several new competing agreements to the MAB programme were established and increasingly tying down considerable capacities of administration and academia. Additionally, the financial resources for scientific research have been narrowed. Without any budget and staff, the activity of the MAB NC has been decreasing since then. The interests of local people from the biosphere reserves are not represented in the MAB NC (KOVÁCS 2006).

Inside the ANPD, a deputy for nature conservation deals with nature protection, research, rangers activities and property management issues. A second deputy should deal with tourism issues, with ecotourism and environmental education, tour and cave management issues and accommodation sales. This position is not filled and, at the time being, the director supervises the tourism activities of the ANPD (KOVÁCS 2006).

A formally organised relationship with local population via the ANPD staff does not exist albeit most of the employees come from the surroundings of the ANPD and several official lines of communication exist with local governments and people. Due to the lack of resources and personnel, the NP has paid little attention to relationships with local people although there is a continuous request from the neighbouring municipalities. Even though the ANPD does not dispose of the respective resources, it is often compelled into the leading position of regional development, which is not a normative task of the Directorate (KOVÁCS 2006).

In the sub-regional planning process, negative or even hostile attitudes towards the National Park are expressed. Local people feel that the NP limits their already difficult existing livelihood possibilities. During interviews, most of the local stakeholders asserted that it is very difficult to mobilize people for community purposes. There are only a few local organisations which focus on wider issues and a complex agenda (KOVÁCS 2006).

The Galyaság Settlement Association was established in 1991 joining nine villages, three private enterprises and 57 people to improve the living conditions and living standards of local people, to protect the traditions and natural assets and to promote the amenities of the micro-region to the national and international community. The mainly highly educated members initiated several projects and programmes for improving the living conditions. In spite of their enormous efforts, the Association disposes of only a small budget from membership fees.

The Ecological Institute for Sustainable Development was established in 1992. The foundation launched the „Gömörszőlős, the sustainable village“ programme in the middle of the 1990's. The objective of the programme is to put the idea of sustainability into practice. A not-for-profit organisation was created by the institute to operate the economic activities of the programme (e.g. wool processing, trading with local products etc.). This not-for-profit organisation is involved in the sustainable development of the Gemer micro-region. The Gemer Environment and Landscape Development Association (GKTE) was established by local people to contribute to the wise development of Southern Gemer (its northern part lies in Slovakia). The programme “Living from Tradition” aimed to develop income generating capabilities and skills of local people and just has been completed in 2005. The project successfully brought together the local youth in summer camps to explore and collect the traditional folk motifs of the region. In 2005, the Institute also implemented the UNDP-financed programme “Promotion of Sustainable Development in the Aggtelek Carst Region” also involving the Hungarian Office of the Regional Environmental Centre (REC). A group of selected devoted local people was trained in strategic planning, project management and application writing. After a regional call for applications, the selected ideas were facilitated and submitted as concrete applications to regional development funds. The role of REC in the programme was conflict resolution.

The Cultural and Tourism Institute of Borsod-Abaúj-Zemplén County has got a running project from the Human Capital Development Operational Programme to explore the state of local communities and initiate an overall community development programme. The first phase of the research was managed during the autumn of 2005 and the programme will continue with training involving those local players who could act

as the local community development animators in their own communities after the training.

However and as a major barrier to development, neither the above mentioned organisations nor the local governments have sufficient resources for initiating development, thus the impact of their activities remains modest.

Management framework

On national level, Hungary makes substantial efforts to support its EU accession by a concerted strategic exercise on all administrative levels involving representatives and interests groups from economy, social life, academia and civic movements. At the end of 2005, the Parliament adopted a new development concept for the national and regional level. For the preparation of the 2007-2013 programming period of the EU, the government initiated a planning process in July 2004. This so-called 'Europe Plan' aims at coordinating the sector and regional activities and is based on four pillars, namely (KOVÁCS 2006):

- Social and Economic Cohesion - focused on the improvement of disadvantaged areas, and on disadvantaged groups in society.
- Increasing Hungary's Competitiveness - focused on improving research and development activities, building the necessary infrastructure, streamlining government bureaucracy, and on improving the services of the judicial system.
- Lifelong Learning and Innovation - focused on developing an educational system considering the needs of the economy and assuring the opportunity for lifelong learning. Another main aim is the socio-economic reintegration of disadvantaged groups and the development of their economic and cultural potential.
- Sustainable Development - focused on the long term environmental, social and economic effects of development projects.

The Regional Development Council of the region Northern Hungary has defined major priorities and programmes for the region Northern Hungary for 2007-2013, *inter alia* the creation of a competitive economy programme and of a joint regional tourism network with the North Great Plain Region (KOVÁCS 2006).

During 2005, the sub-regional councils approved their sub-regional development concepts as a preparation for the new programming period. After receiving the financial conditions for the next period these concepts and programmes need to be re-adjusted (KOVÁCS 2006).

The Aggtelek National Park elaborated a first overall management plan for a five year period 1997-2001 by 1996. It was prepared by the national park staff and scientific experts. The management plan contained strategies to achieve the goals of nature conservation, to establish the protected area zonation system and to manage the habitats outside of the zonation system which required special treatment. The management plan also had a short and medium-term work plan and an action plan to guide the implementation. Before the expiry date of the management plan period, new regulations for the elaboration of nature conservation management plans were adopted by the government. Due to this change of regulation, the new planning process had not been accomplished by the end of 2004. Foreseeable date may be the end of 2006 (KOVÁCS 2006).

In the second half of the 1990's and after admission to the UNESCO World Heritage list, the technical and financial capacity of the National Park reached a level which made it possible to pursue actual nature conservation management tasks. By that time, the zonation had been more or less established and the management guidelines had been drafted. It was clear which territories needed reconstruction and rehabilitation. Several habitat reconstruction and rehabilitation programmes have been managed since then. A long-term problem and environmental threat was solved during 2004-2005 when in five of the ANP villages (Jósvafő, Szin, Szinpetri, Szögliget and Perkupa) a sewage system was installed (Kovács 2006).

In 1998, the ANPD prepared a Tourism Development Plan for the surface areas and caves on the UNESCO World Heritage list. The main objectives are the protection and preservation of the caves while increasing the visitor rate and the role of education. The Tourism Marketing Plan of the ANP for the period 2005-2010 provides a detailed situation analysis of tourism activities in the national park also defining marketing strategic goals such as the spatial diversification of tourism activities. Priorities are the creation of appropriate infrastructure, the development of capacities to extend tourism in time and space, and the improvement of the marketing activities. There is a planned second volume dealing with tourism in the wider regional context (KOVÁCS 2006).

Scientific research on the territory of the ANP has several decades of history. Great progress was achieved in the utilization of research results. The data collection and processing based on GIS method resulted in better spatial designation of protected territories and improved the efficiency of practical management. It is worth mentioning the research programmes of the National Biodiversity Monitoring System, which works under a centrally designed scheme. To this date, a significant part of the research in the territory of the NP is joined to this nationally planned and managed programme which started in 1999. Thanks to the long history of nature conservation research, the

Aggtelek National Park has become one of the best explored territories in Hungary (KOVÁCS 2006).

Transboundary cooperation

As a result of the 1995 Slovak–Hungarian Intergovernmental Treaty, a bilateral agreement of cooperation in the field of environment and nature protection was signed in 1999. In order to coordinate the respective activities, a Hungarian-Slovak Environment and Nature Protection Joint Commission with nine working groups was set up. A wide range of joint activities, planning and research is realised within the framework of the Joint Commission. The joint working group on nature and landscape protection organises regularly meetings, realises environmental education activities and set up its own website in Slovak and Hungarian language. A Standing Committee was established for the assessment and monitoring of the water pollution in the Domica-Baradla cave system also designating surface areas of caves based on unified criteria (KOVÁCS 2006).

In cooperating with other working groups of the Joint Commission, namely the Regional Planning Group and the Geological Working Group, a joint regional land use plan for the Aggtelek-Domica border region is under preparation also involving Slovak and Hungarian planning institutions. The process started in 2004 and will most likely be completed in 2006 (KOVÁCS 2006).

During the past years several villages on both sides have established partnerships. These contacts include mutual visits, learning from each other's experience, joint cultural and sport activities and elaborating joint plans with possibly joint applications for EU resources. These contacts are not only restricted to the official level, as families are spread over both sides of the border.

With regards to the sub-regional and regional level, the development agencies of both sides still did not establish regular contact, only case-by-case cooperation exists based on joint projects (KOVÁCS 2006).

The Aggtelek National Park on the Hungarian side of the border and its counterpart on the Slovak side, the Slovak Karst National Park, established a permanent mode of communication during the past decades. Twice a year, representatives of both entities, from the Slovak Cave Authority as well as from the tourism industry meet for information exchange. However, this well established relationship is far from assuming a coordinated management for the both National Parks (KOVÁCS 2006).

There are significant differences in the institutional structure of the National Parks on the two sides of the border. The Aggtelek National Park Directorate as a legal entity disposes of full control over the designated NP surface area and its underground

caves. It enjoys significant autonomy in its operations: nature conservation, tourism management, environmental education, scientific research etc. The overwhelming majority (92 per cent) of the NP territory is state owned. The National Park Directorate pursues nature protection management and operations on about 1/3 of the NP territory. To fulfil these tasks, the NP Directorate employs a significant number of staff reaching up to 160 persons a year (KOVÁCS 2006).

The Slovak Karst National Park Directorate has less competence than its Hungarian partner. The activity of the National Park Directorate is focused on the protection of the surface karst area, while the subterranean parts of the NP are managed by the Slovak Cave Directorate in Liptovský Mikuláš. Furthermore, tourism management within the National Park and in the caves lies in the hands of local governments, enterprises or entrepreneurs. There are important civic initiatives and organisations managing tourism activities, e.g. the Slovak Karst Tourist Association. The majority of the NP territory is not state-owned, there are large scale agricultural companies and other private land and forest owners managing a considerable share of the NP territory. The Slovak National Park Directorate employs 16 people all together. Higher authorities have their own decision making powers in the area of the Slovak Karst (KOVÁCS 2006).

Conflicts

The major conflict is focused on forest management within the borders of the National Park. About 80 per cent of the forest or 60 per cent of the NP territory is state-owned and managed by the North Forest Company, again a state-owned company which pursues active forest management for profit purposes (KOVÁCS 2006). No information was available concerning the application of certification schemes such as the Forest Stewardship Council (FSC).

Tab. 2: Land Ownership in the Territory of the Aggtelek National Park

Owner	Management of property	ha	Distribution
State	ANPD	6,375.50	31.58%
	North Forest Company	12,140.00	60.14%
	state companies, water works, etc.)	88.40	0.44%
Former cooperative land (now partly private)	land use rights	399.00	1.98%
Corporations		8.40	0.04%
Local government		649.60	3.22%
Private		520.60	2.58%
Church		5.00	0.02%
Total		20,186.50	100.00%

The abandonment of traditional land use also poses a conflict from the point of view of biodiversity conservation. The uncultivated traditional orchards and vineyards symbolise the limited capacity of an ageing population to cultivate their land in the traditional way. The National Park Directorate which takes over these territories to provide a minimum level of land management to maintain the biodiversity values. Poverty among local people can be considered the reason for unlicensed extraction of wood from the NP forests (KOVÁCS 2006).

Finally, the predominant role of the Aggtelek National Park Directorate in the territorial development context is some kind of a paradox as this conflict shows two contradictory sides:

- On the one hand, the ANPD is perceived as an advocate for nature conservation and thus as an obstacle for regional economic development. This explains the even hostile attitude of some locals towards the ANPD which might be partly due to the only weakly developed communication efforts of the ANPD with respect to the sub-regional context. However, considering the different objectives in the National Park, the active involvement of local stakeholders in the ANPD internal decision making process is restricted.
- On the other hand, the ANPD in fact plays a significant role in the regional development. With no doubt, the ANPD as employee of some 160 persons of staff is a prominent actor in a region characterised by high unemployment rates and increasing brain drain especially from young people. However, there is an inherent conflict between the ANPD's major task to preserve the natural values on the National Park territory and its role as a promoter of regional development, in particular with respect to its tourism activities. The impact of visitor traffic and infrastructure (car parks, streets, constructions) inside the

NP on the surface ecosystems has not yet been analysed by independent experts. No arrangements are made for the introduction of environment-friendly transport systems to reduce noise, air pollution and sealing of natural grounds on the territory of the NP.

The integration of both, the effective conservation of natural values and the sustainable economic development, would be a prominent task for the management of a future functioning Biosphere Reserve on the territory and in the surroundings of the Aggtelek National Park.

Achievements

With respect to the Biosphere Reserve, progress has been made concerning scientific research and assessment of its natural values. Besides being a National Park, the area is also listed on UNESCO's World Heritage and recognised as a wetland of international importance by the Ramsar Convention.

The National Park administration is an important regional employer providing livelihood to some 160 persons of staff who are mostly stemming from the region. Furthermore, major infrastructural improvements (sewage, cave tourism) could be achieved. The NP management is very successful in developing tourism activities in connection with the caves. In its Tourism Development Plan, the ANPD lists several important investments to further improve the services for tourists and to enhance the diversity of tourism attractions in the area.

The ANPD is a strong player for nature conservation in the context of regional development. It established personal contacts with local people and several official communication lines with local governments, especially via its Property Management Department, its three tourism departments and the Rangers Department.

Concerning transboundary cooperation, there are sure a lot of potentials to be tapped, however, basic communication is established and local NGOs are supporting the process.

Current deficits

In the 1990s, the Hungarian environmental, nature protection and rural development institutions and authorities were not ready for the innovative approach of the Seville Strategy. Rural development institutions did not yet exist and the civic movement was still weak and not very well organised. In Hungary, biosphere reserves are still perceived as a scientific category, a kind of award, which was not operationalized for further practical measures. The Seville Strategy was only recently translated into Hungarian in 2005. Sustainable development of small communities in side nature protec-

tion areas is rather unilateral and focused on the ecological aspects only (KOVÁCS 2006).

The following paragraph is a self-critical assessment from the Second National Environmental Programme. „ In the case of biosphere reserves it is essential to update legal evaluation and designate lagging core areas. Both the existing reserves and the ones proposed as potential new reserve are to be published according to a uniform legal regulation, with updated real estate registry. Moreover, it is important in the management of biosphere reserves to ensure the enforcement of the provisions as laid down by the Seville Decision.” This short and very formal paragraph indicates that the real message of the Seville Strategy was not considered in a wider context in Hungary. This statement is underpinned by the fact that the thematic action plans of the Second National Environmental Programme, which further detail the main tasks of the Programme, do not provide particular tasks concerning biosphere reserves (KOVÁCS 2006).

Against this background it is not surprising, that the Hungarian nature conservation policy widely neglects the interests of small local communities inside or in the vicinity of protected areas. However, the Aggtelek National Park management is much aware of the relevance of local populations for nature conservation but it simply does not have the appropriate legal, material and financial instruments according to the requirements of the Seville Strategy. No forums for participation and civic involvement were established, e.g. periodic round tables; however, the NP Director regularly participates in sub-regional and local council meetings. The Hungarian nature conservation legislation does not provide detailed regulations for biosphere reserves. Even though paragraph 29⁴ of the Nature Conservation Law mentions biosphere reserves and provides criteria for their zonation, further legislative implementation guidance is missing. Only core zones were designated for biosphere reserves in Hungary (KOVÁCS 2006).

Summing up

During the process of EU accession, Hungary has made successful efforts to build up a consistent legislative and policy structure for an integration of biodiversity conservation with regional development. In the case of the Aggtelek region, this effort was supported by the existing tourism activities on the territory of the National Park as the

⁴ “(1) The Minister may, in compliance with the international obligations of the Republic of Hungary, qualify by provision of law national parks, landscape protection reserves, nature conservation areas or certain parts of them as biosphere reserves, provided that they are of internationally outstanding scientific value.

(2) Within biosphere reserves, a core area shall be designated for the direct protection of outstanding nature conservation values.”

attractiveness of the site for nature tourism has a long tradition and is featured by the outstanding characteristics of its cave system.

However, the impressive successes of the ANPD concerning tourism development and ecosystem research might be thwarted by its weak efforts to establish fora for a broad participation from local stakeholders in the sub-regional development process. This is due to the paradox situation that the ANPD is on the one hand forced into a leading position in territorial development, and on the other hand does not have an appropriate budget nor the necessary tools. The National Park is still an island of fortune in a sea of regional social deterioration and economic depression. Insofar, the National Park has not been successful in connecting its development dynamic with the surrounding communities. This causes persistent tensions between the Park and its neighbours.

3.3 Babia Góra Biosphere Reserve, Poland

Ecological and economic issues

The Babia Góra Biosphere Reserve is the second highest mountain massif in Poland and situated in the Beskids Mountains. Its highest peak reaches 1,725 meters above sea level. Four habitats are represented in the Biosphere Reserve: the lower forest belt (up to 1,150 meters), the upper forest belt (up to 1,390 meters), the dwarf pine belt (up to 1,650 meters) and the alpine belt (up to 1,725 meters). The Biosphere Reserve was extended as a result of the periodic review in year 2000. It now includes a state forest oriented to near-natural forest management, as well as inhabited areas (UNESCO-MAB 2006).

The Babia Góra Biosphere Reserve covers an area of 11,829 ha. The climate is typically montane. The average annual temperature varies between 4°C in lower altitudes and 2.5°C at the upper timberline. The average annual precipitation is 1,140 mm at the foothills and about 1,410 mm at the shelter on Markowe Szczawiny (1,180 m a.s.l.). Snow cover lasts 5-7 months. South-western winds dominate while Foehn winds often occur on the northern slopes. The climate of the south foothills has continental influences (DABROWSKI 2006).

The Babia Góra Biosphere Reserve forms a watershed between the Baltic Sea and the Black Sea basins. About 500 springs on the slopes supply water to 15 larger streams and some smaller intermittent streams. There are twelve ponds situated in the massif, but most of them are declining (DABROWSKI 2006).

The area shows a mixed mountain and highland system. The lower forest belt is characterized by Carpathian beech forest (*Dentario glandulosae-Fagetum*), fir forest

(*Galio-Abietetum*), mixed fir and spruce forest (*Abieti-Picetum montanum*) etc.; the upper forest belt shows *Picetum excelsae carpaticum*; the sub-alpine belt consists of dwarf pine thicket with *Pinetum mughi carpaticum*, *Adynostyletum alliariae*, *Petasitetum kabilkiani*, *Vaccinium myrtillus* etc.; the alpine belt shows *Deschampsio-Luzuletum* and *Junco trifidi-Festucetum supinae* (UNESCO-MAB 2006).

The fauna of the area is characterised by populations of European red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), fox (*Vulpes vulpes*), and brown hare (*Lepus europaeus*). Abundant bird species are buzzard (*Buteo buteo*), goshawk (*Accipiter gentilis*), hazel hen (*Tetrastes bonasia*), woodcock (*Scolopax rusticola*), tawny owl (*Strix aluco*), long-eared owl (*Asio otus*), woodpeckers, and raven (*Corvus corax*). Endangered mammal species reported are wolf, lynx and bear (DABROWSKI 2006).

The Babia Góra Mountain ridge was a state border until 1918 and the communities living on the different sides of the massif have developed independently, giving rise to different architecture, folklore, clothing and dialects. The Babia Góra Biosphere Reserve lies on the territory of four parishes⁵. The main economic activities are agriculture, cattle breeding, forestry, carpentry and agro-tourism. The Biosphere Reserve has some 6,000 inhabitants and some 56,000 visitors annually spend their holidays in the area (2001). Some 25,000 people are living in the vicinity of biosphere reserve, in Zawoja and Jabłonka parishes. The rate of unemployment is about 10 per cent of the population in productive age. It is significantly lower than the average figure for Poland (17 per cent) (DABROWSKI 2006, UNESCO-MAB 2006).

The average farm size is very small. There are about 900 farms between 1 and 2 ha size and there is no farm bigger than 10 ha. Additionally, fields and meadows are very scattered, one farm can have even 20 pieces of land in various parts of the village. Farmers cultivate mostly wheat, oats and potatoes, they breed cattle and pigs and still use horses, however, their number decreases year by year (88 in 2002). Vocational education of farmers is rather low, only 25 of them have (2002) formal education in agriculture. The above circumstances cause that land use is very traditional, extensive and nature-friendly. Owing to that, the village maintained a beautiful landscape consisting of a patchwork of fields, meadows and forests providing for high biodiversity (DABROWSKI 2006).

Tourism plays a small, however growing role in the local economy. Albeit only one pension in Lipnica Wielka is registered, several farmers rent rooms for tourists. This is due to the fact that up to five rooms can be rented without any formalities, so this phe-

⁵ The basic administrative unit in Poland is called "gmina". A rural "gmina" usually consists of a few villages and has several thousand inhabitants. A "Gmina" has a local council and a chief (mayor), both elected directly by the inhabitants. Probably the best English word for "gmina" is "parish".

nomenon escapes statistic. Tourism in Zawoja and Jablonka is much more developed, Zawoja alone disposes of several rest-houses, pensions and hotels with almost 2,000 registered beds for tourists. In 2002, they hosted about 30,000 tourists, providing them over 120,000 overnight stays. There are also hundreds of beds for rent in private farms. As the economy of Zawoja village depends partly on tourism, the citizens living there are much more interested in new tourism investments than people from other villages (DABROWSKI 2006).

Existing policies and legislation

The Polish Constitution of 1997 assures congruency between the Polish nature conservation policy and the underpinnings of the Seville Strategy in stating that “the protection of the natural environment pursuant to the principles of sustainable development” shall be ensured. Even though the Constitution does not specify its statement, in general terms, however, biodiversity policy is considered an element of sustainable development.

More explicitly, particular national Polish policies and strategies elaborated under the roof of the “Sustainable Development Strategy for Poland up to 2025” (Polska 2025) define the framework for nature conservation policy. Thus the Constitution together with the Second National Environmental Policy (NEP) of 2000, the National Strategy for the Conservation and Sustainable Use of Biological Diversity of 2003 and the Environmental Protection Act of 2001 have extended the perspective of nature conservation and biodiversity policy beyond protected areas (OECD 2003, IISD 2004).

The 2nd NEP clearly indicates that biodiversity should not only be conserved in specific protected areas but should also be fully integrated into activities concerning other economic sectors (OECD 2003). Chapter 1.4 on the ecologisation of sectoral policies, also including a paragraph on tourism, states that the priority of the 2nd NEP will be assigned to the so called good managerial practices and environmental management systems, which allow for matching economic effects with environmental ones. Methods for the ecologisation of tourism are *inter alia* rigorous control and enforcement of binding regulations, procedures and standards concerning spatial management in tourism areas, establishment of buffer-zones surrounding sensitive areas supporting differentiated forms of tourism, as well as raising awareness for ecological aspects among tourists and tourism entrepreneurs (POLISH MINISTRY OF THE ENVIRONMENT 2000).

The National Strategy for the Conservation and Sustainable Use of Biological Diversity and its accompanying Action Plan is the main vehicle for implementing the Convention

on Biological Diversity (CBD) in Poland and built on strategic activities (POLISH MINISTRY OF THE ENVIRONMENT 2003):

1. The recognition and monitoring of the status of biological diversity and of existing and potential threats thereto;
2. The removal or limitation of current and potential threats to biological diversity;
3. The preservation and/or enhancement of existing elements of biodiversity, and the reinstatement of those that are disappearing;
4. The integration of actions in the name of biodiversity conservation with those important for it in the different sectors of the economy, in the public administration and in society in general (including NGOs)."

Albeit the National Strategy does not mention biosphere reserves directly, strategic activity IV, however, provides the linkage to the integrative approaches of the Seville Strategy as well as to the Ecosystem Approach of the CBD. The Strategy refers to tourism "as a form of sustainable use of the naturalistically valuable areas". The Action Plan of the Strategy includes the task to elaborate guidelines on tourist access to vulnerable areas including mountains and to elaborate and implement tourism development plans within protected areas (POLISH MINISTRY OF THE ENVIRONMENT 2003).

The Polish Environmental Protection Act defines the principles of environmental protection and the conditions under which the natural resources can be utilised, following sustainable development requirements. It sets out *inter alia* the principles of natural resources protection and obliges the Government to prepare a National Environmental Policy paper every four years. The Act regulates also procedures of environmental impact assessment. It provides that all land use plans shall be subject to public consultation, and that restrictions applying in protected areas shall be reflected in local land use planning (DABROWSKI 2006).

The Polish Nature Conservation Act of 2004 is the basic regulation defining the state organisation of nature conservation and the system of protected areas including: national parks, landscape parks, areas of protected landscape, Natura 2000 sites, natural monuments, landscape conservation, protected species, genetic resources, protection of green areas in towns etc. This act creates also legal basis for co-operation for the protection of transboundary areas. Most important for the management biosphere reserves are regulations concerning protected areas, including "plans of protection" (management plans) which can be used for the management of biosphere reserves as well provided that each part of the biosphere reserve is protected as national park, landscape park or nature reserve. The Nature Conservation Act quotes also several conditions and regulations which apply to tourism (and any other economic) activities within protected areas (DABROWSKI 2006).

At present there are no direct references towards biosphere reserves within the Polish legislation. The only legal basis for the establishment and operation of biosphere reserves can be found in the UNESCO Constitution which entitles Poland to take part in UNESCO programmes and projects (DABROWSKI 2006).

Institutional framework

The Babia Góra Biosphere Reserve lies in the Voivodeship (province) of Małopolska on the territory of four parishes (see table 1). Its area belongs to two districts: Sucha Beskidzka (northern side) and Nowy Targ (southern side). The parishes Lipnica Wielka and Jabłonka are situated on the southern slopes of Babia Góra massif while Zawoja occupies the northern slopes.

Tab. 3: Administrative division of the Babia Góra Biosphere Reserve (area in ha)

Parish	Core zone	Buffer zone	Transition zone	% of parish area is BR
Lipnica Wielka	410	413	cr. 5,400	92 %
Zawoja	715	1,842	ok. 800	26 %
Jabłonka	---	11	cr. 2,000	9 %
Koszarawa	---	---	ok. 200	6 %
Total:	1,125	2,267	8,437	

The lead ministerial responsibility for nature and biodiversity policy rests with the Minister of the Environment; implementation of nature conservation policy is the responsibility of the Chief Nature Conservator and his staff within the Ministry. Other nature conservation responsibilities lie with the voivodships, which can designate landscape parks and nature reserves; these functions are supported by regional nature conservators (OECD 2003). However, in 2001 after a radical administrative reform, the following conclusions were drawn with respect to the sub-regional administrative capacity to implement and enforce the EU environmental *acquis* in Poland: "According to the new administration structure gminas and poviats have a lot of duties and in most cases treat environment protection as a less significant problem. Additionally because gminas and poviats are independent, the government has no (or rather limited numbers) instruments to force local administration to invest in priority (from the Government point of view) areas. (...) The radical administrative reform, the decentralisation of responsibility to institutions that did not previously undertake these functions and the lack of resources and training to undertake them, means that the voidvoships, poviats and gminas do not yet have sufficient capacity to implement the environmental *acquis*. (...) A major programme of staff recruitment and training at voidvoship, powiat and gmina levels is needed and this requires extensive funding." (ECOTEC 2001).

According to the Polish legislation the system of protected areas in Poland consists of: national parks, landscape parks, nature reserves, areas of NATURA 2000 and areas of protected landscape linked by ecological corridors. National parks are created by the decree of the Council of Ministers, NATURA 2000 by the decree of the Minister of Environment other three by the decree of voivoda (the head of voivodship – province). Protected landscape areas can also be created by local (parish) authorities (DABROWSKI 2006).

National parks are funded by the State budget, however, they can generate money by own economic activity. All state property within national parks boundaries is managed by national park administration. This is a significant difference in comparison to landscape parks in Poland. Each national park has an advisory scientific council, nominated by the Minister of the Environment. Amongst the council members are also representatives of local authorities and NGOs. It is a custom in Poland, that the tourism organisation 'Polish Tourist Country Lovers' Society' (PTTK) is represented in each national park council by at least one member (DABROWSKI 2006).

In Polish law, no mechanism are foreseen for the management of biosphere reserves. In Babia Góra National Park, the National Park Authority represents the Biosphere Reserve, e.g. in meetings and conferences organised by the Polish UNESCO-MAB Committee (DABROWSKI 2006).

The Polish UNESCO-MAB Committee works within the Scientific Committee "Man and the Environment" appointed by the Presidium of the Polish Academy of Sciences. The Polish UNESCO-MAB Committee represents Polish biosphere reserves in UNESCO, defines the development strategy for biosphere reserves in Poland, facilitates information exchange between particular reserves, reviews projects connected with biosphere reserves, and provides public relation services. In relation to particular biosphere reserves, the Committee operates as advisory and assisting body without formal control. It created several working groups of experts considering the different topics of the MAB Programme. Amongst the members of its working group on biosphere reserves are representatives of the Polish biosphere reserves and other independent experts. Dr Piotr Dabrowski, member of the Babia Góra National Park's Scientific Council and at the same time member of this working group, takes care about biosphere reserve activities on national level. Due to its voluntary character, this work, however, is limited to consultations and facilitation of co-operation with other partners. The activity of the Polish UNESCO-MAB Committee in general is based on voluntary work with the Polish Academy of Sciences providing some administrative support. With respect to the effectiveness of the National MAB Committee, the lack of funds is one of the main obstacles in fulfilling the tasks provided by the Seville Strategy (DABROWSKI 2006).

Management framework

The Polish Act on Planning and Spatial Management of 2003 proclaims that landscape, historical, cultural and natural values must be considered during the preparation and execution of local spatial management plans. Due to the lack of national legislation or planning instruments for the operation of biosphere reserves, these local spatial management strategies and plans are the most important tool for the management of the BR transition zone. However, spatial planning on the local level is thwarted by an increasing “urbanisation of the countryside”, i.e. the expansion of urban areas and chaotic construction of vacation houses on inappropriate sites. “The new pressures are exacerbated by the difficulties encountered in legally enforcing planning control over use of private land; these difficulties are partly related to devolution of planning authority to the gminas, which often lack capacity for land use planning and the resources needed to implement or enforce such plans.” (OECD 2003) Due to frequent legislative changes regarding spatial management, valid spatial management plans exist for less than 20 per cent of the Polish territory. Concerning the territory of the Babia Góra BR, the situation is comparably comfortable, as the Mołopolska voivodship (county) as well as two gminas (parishes), Lipnica and Jabłonka, have valid plans, and the spatial management plan of the Zawoja parish is in preparation (DABROWSKI 2006).

The motto of the 2003 Spatial Management Plan of the Mołopolska Voivodship is: “Harmonious management of the space is a basis for dynamic and sustainable development of the Voivodship”. It is the framework plan for the spatial planning on gmina level. The Plan determines in particular: (1) the system of protected areas, protection of health-resorts, cultural monuments, landscape and (2) the distribution of the main investments important for water management, transport, tourism etc. Considering the area of the Babia Góra BR, the following issues are the most important (DABROWSKI 2006):

- Babia Góra National Park (3,391 ha) and Czarna Orava river (37 ha) will be included into NATURA 2000 as Special Protection Areas;
- Polica Mountain Range (1,167 ha, partly within Biosphere Reserve) will be included into NATURA 2000 as Special Areas of Conservation;
- close to the Biosphere Reserve, in the Orava river basin several nature reserves will be established and included into NATURA 2000 as Special Areas of Conservation;
- the Polish-Slovak co-operation should be continued and developed regarding *inter alia* protected areas, tourism, euroregions;

- traditional farming will be supported, especially in mountainous areas;
- nature-based tourism as well as agro-tourism will be promoted;
- the system of cross-boundary transport in the Orava area will be developed, including revitalisation of the old railway between Nowy Targ (PL) – Trstena (SK);
- the concept of “Amber Trail” (international tourist route between Budapest and Gdansk) and other cross-boundary trails will be promoted.

These issues of a spatial policy in the Malopolska Voivodship have to be included into the spatial management plans prepared for each of the parishes.

In the parish of Lipnica Wielka, a Strategic Plan of the Sustainable Development of Tourism in Lipnica Wielka Parish was prepared in 2000, thanks to funds from the EU Programme “Credo”⁶. In general, it is fully conformable to the concept of the BR transition zone. The 2005 Spatial Management Plan of Lipnica Wielka puts its emphasis on the protection of the environment, of cultural and natural values, and of the traditional spatial order. It assumes improvement of waste management, maintenance of the local style in architecture, safeguarding of ecological corridors (mostly streams), and the enlargement of the forest areas. During the process of its preparation, the Plan was subjected to an environmental impact assessment procedure. Generally, the Spatial Management Plan of Lipnica Wielka creates an appropriate frame for sustainable development in parish, however, the Plan is relatively liberal concerning the construction of vacation houses in the countryside (DABROWSKI 2006).

In Jablonka parish, neither the Strategic Development Plan 2004–2010 for the parish nor the local spatial management plans for the villages Zubrzyca Górna and Lipnica Mała reference the Babia Góra Biosphere Reserve (DABROWSKI 2006).

The Conservation (management) Plan of Babia Góra National Park has to be approved by the Minister of Environment then becoming a legal document which is superior to land use management plans adopted by local authorities (communes). The Conservation Plan should tackle all activities carried out within the area of national park, e.g. tourism, sport, education. However, conservation plans do not apply to buffer zones of national parks; respective local land use management plans have to be agreed with the national park authority. Currently, a new Conservation Plan is being prepared and the management of the Babia Góra National Park is provisionally based on plans prepared and approved year by year (DABROWSKI 2006).

⁶ Programme “Credo” – Cross-border co-operation between Central and Eastern European Countries and New Independent States; Phare-project no. 98-PL-20F/13

Transboundary cooperation

The region of Babia Góra lies within the area of two EUROREGIONS: EUROREGION Tatry includes the southern side of the Biosphere reserve while EUROREGION Beskidy includes its northern side. Both EUROREGIONS are experienced in the transboundary co-operation, however, up to now, the Babia Góra Biosphere Reserve was not subject of implemented projects (DABROWSKI 2006).

The 2003 Polish National Environmental Policy for the Period 2003 – 2006 prepares further ground for the possible creation of a transboundary Polish-Slovak Biosphere Reserve in the Babia Góra region as it promotes bilateral co-operation with neighbouring countries. The already established Polish-Slovak Intergovernmental Commission has a special task-force regarding protection of the environment and forest management (DABROWSKI 2006).

The Slovak part of the Upper Orawa (Horna Orava) provides good conditions for the establishment of a biosphere reserve. There are strict nature reserves (possible core zone), state forests within the Protected Landscape Area (possible buffer zone) and rural areas with traditional, extensive farming (possible transition zone). In addition, a huge part of the Upper Orawa was recently declared as protected bird area for the NATURA 2000 network. Taking this opportunity, the administration of the Upper Orawa Landscape Park and the Slovak UNESCO-MAB Committee are currently preparing the establishment of a biosphere reserve in the area. The future creation of a transboundary biosphere reserve “Babia Góra” has been an option from the beginning of these activities (DABROWSKI 2006).

Probably in 2007, both countries will fulfil the requirements of the Schengen Treaty. This will create a new socio-economic situation and will lead to the re-unification of this historical region in the long run. It will make this region much more attractive for tourism as tourist attractions of the Polish and Slovak side are complementary (DABROWSKI 2006).

Conflicts

Major conflicts in the area of the Babia Góra Biosphere Reserve are centred around issues of tourism development. There seems to be considerable pressure from investors to build new ski facilities and to develop trails and even areas for activities such as mountain biking, horse riding, and motor cycling on the territory of the BR.

Against this background, increasing concerns are uttered regarding the fact that ecological awareness and education amongst the inhabitants of the region is low while expectations for rapid improvement of living standard are very high. There seems to be a tendency to favour short-term economic benefits over long-term effects of sus-

tainable development options. It is not clear what communication strategy the National Park management intends to follow in this regard or whether there is one at all.

Achievements

Poland has established a legislative and institutional framework for nature conservation that is continuously improving. Management plans are being developed for protected areas, and a legal and administrative structure has been established to integrate conservation plans for Landscape Parks with local spatial planning. There has been a major drive to develop a strategic approach to the integration of biodiversity into other sectors (OECD 2003).

The high rate of public ownership of state forests, the low-intensity traditional agriculture, and Poland's position in a region where the geographical ranges of numerous animal species and vegetation communities overlap, are major causes for the present high level of biodiversity in Poland. "Poland's agricultural sector has been centred around small, private farms using mostly traditional practices and comparatively low levels of agrochemicals. (...) Low intensity use of agrochemicals is an outstanding feature of Polish agriculture." (OECD 2003)

Environmental impact assessment and risk studies as well as the evaluation of management issues are valuable approaches of the National Park management towards an integrated monitoring (UNESCO 2006).

Current deficits

On the regional and sub-regional level, Poland seems to be relatively unprepared in face of the likely increasing pressure on nature and biodiversity in the course of the EU accession and membership. General threats are intensive agriculture (e.g. through environmentally harmful subsidies existing under the present Common Agricultural Policy) or major infrastructure projects (e.g. benefiting from EU support during the accession process and post accession phase) (OECD 2003).

A particular threat in the Babia Góra region is the possible urbanization of the zone along the National Park boundary in the Zawoja parish. This exacerbated by the fact that there is only low spatial congruence of communal planning with the protected areas and in between BR and NP. Despite the fact, that legal and administrative structures have been established to integrate ecosystem management with sector plans, the planning authorities of the gminas often lack capacity for land use planning and the resources needed to implement or enforce such plans on the local level.

There is no national legislative framework for the operation of biosphere reserves in Poland. The impact of the MAB National Committee is limited. The concept of bio-

sphere reserves is hardly known in local level, let alone the recognition of the Seville Strategy. A management unit for the Babia Góra Biosphere Reserve as well as the respective management plans are still lacking.

Summing up

Poland has made major achievements in the establishment of the legal and administrative structures to integrate biodiversity conservation with sector planning on all levels: national, regional and local.

However, successes on local level are somewhat rare. This is due to the fact that planning authorities of the gminas often lack capacity for land use planning and the resources needed to implement or enforce such plans on the local level.

Moreover, ecological awareness and education on the local level is weak. The idea of sustainable development as a beneficial option for regional development is not anchored in rural communities.

Against this background, the insufficient implementation of the Biosphere Reserve as an agent for sustainability is a major flaw for an integrated development of the Babia Góra region.

4 Synthesis of case studies

4.1 Major trends

With respect to the integration of nature conservation policies with socio-economic development strategies and their respective implementation, there two different trends (see tab. 4). Besides the undoubted successes of biodiversity conservation in the different Biosphere Reserves and the impressive progress concerning the implementation of international agreements and the adoption of the EU environmental *acquis* on national and regional level, economic development and policy implementation on the sub-regional and local level respectively is lagging behind. In general, with respect to the implementation of the Seville Strategy in general, results are quite disappointing. Concerning the establishment and operation of biosphere reserves capable of acting in a at least a sub-regional development context in the sense of the Seville Strategy, one could even consider the designated biosphere reserves of the case studies as “paper reserves”.

Impressive progress was made in all case studies concerning the scientific assessment of biodiversity values on the territory of the protected areas. The original approach of the Man and Biosphere Programme to establish the global network of biosphere reserves as a laboratory for scientific research and monitoring and as a basis for education in ecosystem management had been taken up by the already existing National Parks to promote scientific research on their territory. However, some reservations must be made concerning the quality of scientific monitoring: systematic and integrated monitoring of indicators relevant for ecosystem management and sustainable development is, if at all, in its infancies. No references are made to what extent the Hungarian Biodiversity Monitoring System is compatible to international (CBD's Global Biodiversity Outlook) or European standards (Streamlining European 2010 Biodiversity Indicators - SEBI 2010).

All Biosphere Reserves assessed in the frame of this study were designated in peripheral regions of their home countries: the Polish Babia Góra BR and the Hungarian Aggtelek BR at the border to Slovakia, and the Czech Šumava BR in a region close to the German border that has been a dead end just behind the Iron Curtain for decades. Thus it is not surprising, that all regions suffer from strong economic disadvantages and that the combined economic power of beautiful landscapes and sound tourism development raises the hopes of their inhabitants for substantial and sustained improvement of their livelihood. The most advanced in this respect are the Aggtelek BR

and the Šumava BR: in the Hungarian case with a very narrow focus on its famous cave system honoured by the World Heritage Convention, and in the Czech case with a more broad offer including different landscape sceneries, a variety of seasonal sport activities, and advantaged by the geographical position just in the range of three agglomeration areas: Prague, Vienna and Munich. Even though the Polish Reserve has still a long way to go with regards to tourism development, the overall situation is not that much worse. In contrast to the other case studies, the local economy enjoys relatively low unemployment rates in a stable social environment. In the Šumava and Aggtelek region, the economic growth of tourism industries connected to the National Parks did not cause substantial positive effects in the economic development of the surrounding areas.

The governments of the Czech Republic, Hungary and Poland had to shoulder a task of historic dimension when implementing the EU environmental *acquis*. This seemed to be successfully completed with regards to the national and partly to the regional level (OECD 2000b, 2003, 2005). Each country nowadays disposes of a comprehensive system of environmental legislation underpinned by a broad and mostly coherent system of strategies, programmes and action plans for sustainable development integrating biodiversity conservation and the sustainable use of natural resources. With the Czech State Environmental Policy, the Hungarian National Environmental Programme, and the Polish Sustainable Development Strategy, the countries established a framework congruent to EU environmental policy that references the international sustainable development process and other multilateral environmental agreements.

However, when assessing the management framework for the regional and sub-regional level, the overall picture is rather disappointing. Albeit the strategic and legislative framework and even most of the necessary institutions have been established, the whole machinery of Spatial Management Plans (Poland), Regional Development Plans (Hungary), or territorial plans (Czech Republic) seem to work without proper connection to its sub-regional socio-economic environment. There is rather low participation of stakeholders in communal decision making, local civic movements are only weakly developed, the necessary funds as well as the skilled administrative personnel is missing, law enforcement is weak, environmental awareness is low, and so on. This one of the really outstanding results of this study that there is a huge gap between what has been agreed on at the national level, and what still needs to be implemented in the local context. One of the most sad insights is that there are no biosphere reserves in reality. What we find are “paper reserves” without structure, personnel, budget, and management plan. This is particularly frustrating as the economic situation in the surroundings of each Biosphere Reserve virtually deserves an

institution that does what a Biosphere Reserve could do: foster environmentally sound regional development.

Tab. 4: Brief assessment of the consideration and implementation of the Seville Strategy in the case studies

Assessed issues	Level of assessment	Šumava BR	Aggtelek BR	Babia Góra BR
Ecological issues	local	↗	↑	↑
Economic issues	regional	→	↘	↗
Existing policies and legislation	national	↗	↗	↗
Institutional framework	national and regional	↑	↗	↑
	sub-regional	↓	↓	↓
Management framework	regional	↘	↗	→
	sub-regional	↘	→	→
Transboundary cooperation	sub-regional	↗	→	→

The three assessed Biosphere Reserves are located in the borderland of their countries. In each case, a potential partner for a future transboundary protected area exists: for the Aggtelek BR the Slovak Karst National Park, for the Babia Góra BR the Slovak Upper Orawa Landscape Park, and for the Šumava BR the German Bavarian Forest BR. Successful transboundary cooperation is depending on many factors. Besides common objectives and harmonised policy, legislation and management, strong political support and fora for information exchange are of crucial importance (WORLD BANK 2000). Through the accession to the European Union and the implementation of its environmental *acquis* in all of the home countries of the case studies, one of the major prerequisites has already been achieved. In the Czech case, an already long-lasting relation between the German and the Czech part has been established that is build on at least some common visions for the Šumava region. In the other two cases, transboundary cooperation is still in its infancies, however, their progress is promising.

In synthesis, the following cross-cutting issues illustrate relevant fields of the institutional and management framework for biodiversity conservation and sound tourism development in the context of the Seville Strategy and the case studies assessed.

4.2 Awareness and understanding of the Seville Strategy

In general, the Seville Strategy with its emphasis on human dimensions and implication of local communities and other stakeholders is sufficiently reflected in national environmental policies and legislation for nature conservation in the participating countries. However, this diffusion of the objectives of the Strategy (that are in line with the objectives and programmes for action under e.g. the Convention on Biological Diversity and the Ramsar Convention) remains at the surface, i.e. on the national level. On the regional and sub-regional level, the concept is hardly known. This low recognition of the Strategy might be due to the following aspects:

- The MAB National Committees are very limited in their impact. They are mostly reduced to a more or less representative function due to lacking funds for programmatic work. In fact, none of the National Committees has elaborated a strategy for the national implementation of the Seville Strategy. Furthermore, political support for the MAB programme on the national level stays a lip service. In practice, none of the national nature conservation laws includes biosphere reserves as a national protected area category.
- The National Park administrations are obviously not in the position to acknowledge the complementary function of a Biosphere Reserve on their territory. The status of a biosphere reserves is still rather seen as a possibility to facilitate scientific exchange with other protected area administrations and environmental education than as an option for the integration of nature conservation concerns into a wider regional development context that follows the principles of sustainability.
- The administrative capacity, particularly in the regional and sub-regional level, is still low in all countries with respect to the following aspects: staff number and recruitment, effectiveness of personnel and technical equipment (Czech Republic), complex administrative structures, low salaries to attract and retain skilled personnel (Hungary), communication problems between administrative levels, lacking capacity on sub-national level (Poland) (ECOTEC 2001). Against this background, the high capacity demands of integrated ecosystem management in line with the Seville Strategy are hardly to satisfy.

Because the Seville Strategy is rather perceived as an international approach with international responsibility, the diffusion of the Strategy is solely in the hands of the MAB National Committees and there is no support from national bodies. Generally, the awareness and understanding of the Strategy in regional sector authorities and management entities still appears insufficiently advanced. Thus the general picture is

that the lack of awareness and understanding of the concept is most pronounced in the realm of regional and sub-regional administration.

4.3 Instruments for the implementation of the Seville Strategy

As the Statutory Framework for the World Network of Biosphere Reserves sets out, “individual reserves remain under the sovereign jurisdiction of the States where they are situated.” (Art. 2 Para. 2). It is the task and responsibility of the States to take appropriate measures in order to enable the designated reserves to fulfill their functions as described in the Framework (Art. 3). Thus, the instruments necessary for the implementation of the Seville Strategy are given by national legislation and by policies and planning on all administrative levels. General competences in environmental policy making and legislation are assigned to the national level in all assessed countries. In the given case studies, however, national governments decided to represent the Biosphere Reserves through National Parks that cover the same territory (at least with considerable overlap) and have been established before designation of the BRs. But National Parks represent a rather traditional approach to nature conservation that is strongly oriented towards protection areas and the conservation of species and habitats. They are by mandate not in the position to assume a leading role in fostering sustainable development on a regional scale. In many cases, NPs did not take stakeholder interests sufficiently into account and there is a dominance of command-and-control instruments rather than incentives, participation and communication measures. Since collaborative decision-making only plays a minor role, nature conservation is perceived as an obstacle for regional development by sector policies and land owners in many cases (BAUER et al. 1996).

Against this background, the major instrument for the implementation of the Strategy should be biosphere reserves that are fully functioning and capable of acting. This is in none of the case studies given. Even more, Art. 4 Para. 6 of the Statutory Framework was not fully taken into account when the case studies’ Biosphere Reserves were designated: none of the Reserves is provided with organizational arrangements “for the involvement and participation of a suitable range of *inter alia* public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.” Furthermore and due to the lack of a proper working structure, none of the assessed Biosphere Reserve can “foster economic and human development which is socio-culturally and ecologically sustainable” as set out in Art. 3 of the Framework. The Czech and the Hungarian Reserve even miss an appropriate zonation.

In addition, in all case studies, national environmental policies and programmes are not followed by respective planning on the sub-regional level. In the Czech Šumava

region, respective spatial plans on the level of the 'micro-regions' have not yet been elaborated. In the Aggtelek region of Hungary, the National Park Directorate is forced into the not very convenient position of promoting regional development without having the necessary instruments and resources. In Poland, the sub-regional authorities lack capacity for land use planning and the resources needed to implement or enforce such plans. This exacerbated by the fact that the sub-regional level in Poland operates virtually autonomous and the government has only rather limited instruments to force local administration to invest in these areas.

4.4 Structural and inter-sectoral issues in administration and management

In order to avoid a gradual loss or deterioration of natural areas and valuable landscapes, the CEECs need to i) maintain or increase the level of effort to implement environmental policies and strengthen environmental infrastructure; ii) better integrate environmental concerns into agricultural, regional development, transport and tourism policies and economic decisions; and iii) meet the international environmental commitments (OECD 2000c, SUNYER and VÉGH 2002).

Thus, structural and inter-sectoral issues are of pivotal relevance for the effectiveness of planning and management in the natural environment. In all assessed countries, planning and management are embedded into a highly varying system of legal procedures and instruments with a great and complex demand in inter-sectoral and multi-level coordination. Decentralised management approaches on the local and regional level need to be coordinated with the framing conditions on the national level what has been judged insufficient with respect to regional development planning in all case studies.

The relevance of coordination and collaboration is not only restricted to political and administrative sector institutions on the different levels but also stretched onto the field of interaction between scientific disciplines in interdisciplinary research approaches and their coordination with protected area management and administration. Albeit the interplay of nature protection entities and scientific research traditionally is rated as poor, the cases studies can generally be read as success stories regarding the integration of protected area administration with science. In all of the assessed Biosphere Reserves, substantial progress was made in the scientific assessment of biodiversity values.

The Seville Strategy is only one example for a growing international collaboration in the development and implementation of integrated ecosystem management approaches. Other examples are the CBD's Ecosystem Approach, the European

NATURA 2000 network or the EU Water Framework Directive. However, the results from the case studies tackling transboundary cooperation equally illustrate that there is still room for improvement. For example, albeit there is a common EU environmental *acquis*, different legal and institutional provisions in the EU member states hamper the coherent implementation of policies such as the Seville Strategy and there is – in particular compared to national sector policies – no strong coordinating position of the UNESCO MAB Secretariat. Against this background, the slow progress in transboundary cooperation for ecosystem management is not surprising.

However, international commitments and policy goals often remain vague and demand further efforts in inter-sectoral integration on the (national or sub-national) implementation level. Further, the case studies have demonstrated that there is a long way to go when an international agreement such as the Seville Strategy is to be implemented into national policy contexts and to be converted into concrete action.

4.5 Tourism-related issues

Sound tourism development in peripheral areas that are characterised by traditional agriculture and boast with undisturbed natural sceneries seems to be a promising option for local economies. Thus it is not surprising that the national environmental policies and the regional and local planning in all assessed countries seize this option by developing strategies and methods for the integration of tourism into biodiversity conservation and sustainable development concepts.

However, tourism in areas of high ecological value and sensitivity does have an impact that cannot be neglected, e.g. noise, garbage, air and water pollution, trampling of vegetation, decimation of rare species for souvenirs. Solution strategies to mitigate the impact of tourism activities exist most frequently on the national level and are formulated in the frame of National Programmes for Sustainable Tourism. National instruments for implementation may include legal regulations, (landscape) planning and monitoring, economic incentives as well as information and public relations work (BFN 1997).

Tourism activities in the Biosphere Reserves assessed differ to a wide extent. In the Aggtelek BR, cave tourism has a long tradition with high visitor numbers focused on a small area. There are marketing efforts of the Aggtelek National Park Directorate to diversify tourism activities through the extension of infrastructure above ground (roads, trails, hotels, pensions) and the extension of tourism season. The respective measures are laid down in a Tourism Development Plan and a Tourism Marketing Plan of the ANDP. In the region of the Šumava BR there is a continuing boom in tourism activities centred on nature tourism and outdoor recreation and sports. A Tourism Devel-

opment Plan is missing in the Czech case. In Poland, tourism activities are still on a low level but with a growing dynamic. Again, a Tourism Development Plan for the protected area is missing. Tourism Development Strategies considering natural values as the basis for tourism development were elaborated for parts of the sub-regional level. In none of the cases, systems for the monitoring of tourism activities and their impacts on biodiversity were established and implemented.

Thus, the tourism sector follows the general trend in the respective countries: on the national level, programmes and strategies with partly comprehensive objectives were adopted, however, implementation on the regional and sub-regional level is lagging.

4.6 Participation and capacity building needs

Participation is most facilitated by openness of decision-making processes, flexibility of bureaucracy and concepts aiming at the integration of socio-economic aspects with biodiversity conservation (HARTJE et al. 2003). Related issues are information sharing, involvement of traditional knowledge and environmental education.

The case studies reveal that in many cases participation is understood as a formal process of bare information if there is any involvement of stakeholders at all. In the case studies presented, management approaches are driven by National Park authorities and are more or less science driven, whereas an early recognition of the positions of interest groups and individual land owners was not the rule. The participatory process gives the impression that it is not really amenable for negotiation and stakeholder interests are not really taken into account. Furthermore, there are communication deficits as reported from the Czech case study. Communication deficits have even provoked hostile attitudes of locals as in the Hungarian case.

Examples from biosphere reserves and nature parks e.g. in Germany (Elbe River-scape, Bavarian Forest) show the success of stakeholder participation for the development of a common understanding of the regional development and for the elaboration of agreed targets if participatory mechanisms are not restricted by the exclusiveness of nature protection objectives. In contrast, national park management usually faces severe conflicts with local stakeholders due to restricted active participation when trying to enforce decrees for nature protection in an economically disadvantaged environment. Thus conflict resolution is more challenging for traditional single-purpose approaches to ecosystem management than to concepts such as the Seville Strategy aiming at the integration of social as well as economical aspects with nature conservation.

In the scope of the structural and inter-sectoral challenges described in Chapter 4.3., capacity building for nature conservation is of pivotal importance as highlighted by

nature conservationists from CEECs (KORN et al. 2004a, 2004b, 2005; MARGHESCU 2000). Capacity building needs are caused by qualitative issues as well as by quantitative reasons: in general, nature conservation administrations in the Czech Republic, Hungary and Poland dispose of a spatially well distributed structure, however, staff numbers are low and recruitment is somewhat difficult on sub-national levels. Considering the deficits in active participation, capacity development in administration needs to deal with mediation and presentation skills in the context of institutionalised participatory mechanisms.

Concerning civil engagement and active participation in regional development processes, the findings already presented in Chapter 2.4. are supported by the assessment of the case studies. There is a persistent lack of public awareness concerning the necessity of biodiversity conservation and its economic significance. This can be considered as a major obstacle for the implementation of regional sustainable development processes and it is one of the causes for the communication deficits in the case studies assessed. Public awareness of the socio-economic relevance of biodiversity conservation issues is a premise for active public involvement in decision making for ecosystem management. However, even the awareness of opportunities for involvement is scarce in CEECs (KORN et al. 2005).

5 Strengthening the MAB Programme in CEECs

Challenges for the framework

5.1 Potential and existing weaknesses

All countries of the involved case studies dispose of an appropriate national framework for sustainable development. Implementation of the Seville Strategy on the regional and sub-regional level, however, is lacking. This is not only due to the fact that biosphere reserves are not a legally established protected area category in these countries. Implementation of the Seville Strategy on the local level is rather missing due to the following facts:

- Lacking organisation of the biosphere reserves
- Lacking funds
- Weak societal participation due to low civic engagement and missing communication strategies of the Biosphere Reserves
- Low recognition of the principles of the Seville Strategy in the protected areas' administration
- Low environmental awareness
- Lacking support from the MAB National Committees due to lack of funds and personnel

5.2 Lessons learnt – international and European experiences

The international and European level is insofar relevant for the institutional and management framework of the biosphere reserves assessed as e.g. information exchange and concerted action are considered to be of pivotal importance for their management success. Thus, the focus of this chapter is the functioning of the World Network of Biosphere Reserves (WNBR) and its sub-network for the European and North American region, EuroMAB.

According to the Statutory Framework, the WNBR constitutes a tool for the conservation of biological diversity and the sustainable use of its components contributing to

the objectives of the Convention on Biological Diversity and other pertinent conventions and instruments (Article 2). Article 8 states that the constitution and co-operative operation of regional and/or thematic sub-networks of biosphere reserves should serve for promoting the development of information exchanges, including electronic information.

However, the current directory on the WNBR at the UNESCO-MAB website is a mere on-way-road with mostly outdated information. This especially concerns the contact data (BRs and National Committees) but also the number of BRs and the timeliness of the BR list. Most contact data are not valid any more thus delaying and detaining the communication between BRs and with external experts; Nolte (2006) puts it this way: "First contact had to be established by cycling by." Madagascar has only two biosphere reserves but is lodged with three reserves. The same is true for Bolivia. The recent increase (October 2006) in biosphere reserves worldwide is not reflected. Much more irritating is the observation that some of the biosphere reserves do not exist. Tara River Basin, Montenegro, has neither a management body nor allocated financial means. The same seems to apply to two biosphere reserves in Northern Thailand: Sakaerat's manager was not able to find any responsible management body for Mae Sa-Kog Ma and Huai Tak Teak (NOLTE 2006).

On the international level, systematic studies on the functioning of the WNBR and the management of BRs are scarce (STOLL-KLEEMANN 2005). An overview on the institutional and management frameworks for BRs is missing. In 2003, the UNESCO-MAB Secretariat initiated a study on institutional mechanisms in biosphere reserves. In response, more than 35 biosphere reserves submitted their comprehensive answers to a detailed questionnaire developed by the Secretariat. According to the terms of reference, the report on the results of that survey should be fed into the present background study. However, the Secretariat was unable to provide an analysis of the survey.

Instead of reporting the results of the UNESCO-MAB survey, some insights from the research project 'Governance of Biodiversity' (GoBi) that is focusing its efforts on to supporting the improved management of biosphere reserves are presented here. In 2004, the research project has been initiated with the objective to identify success and failure factors for biosphere reserve management (STOLL-KLEEMANN et al. 2006). The research group is currently undertaking a Global Survey on Biosphere Reserve Management. Until the end of October 2006, more than 178 biosphere reserves replied in the frame of the Global Survey.

In summary, the general condition of the WNBR seems to be rather disappointing. Many of the biosphere reserves contacted lack appropriate zonation, biosphere re-

serves are even located in the core zones of national parks (e.g. in Bulgaria). Funding for the BRs is mainly judged inadequate and some participants mentioned the lack of support from UNESCO, the lack of networking and of platforms for information exchange in particular. Although the response rate (35% of all BRs) is quite high, some regions are hardly assessable due to lacking communication channels and language problems (China, North Korea, Iran).

A striking summary of the conditions for BRs worldwide is given by Nolte (2006): "Due to UNESCO's high international reputation, managers (and outsiders) new to the program often expect considerable benefits from a BR designation – in the form of financial aid, donor contacts, help in project development, methodological support, consultants or other provision of knowledge re-sources such as books and brochures. Managers of Shouf (Lebanon, 2005) were surprised that UNESCO did not try to establish any further contact after sending the designation certificate. Sa-kaerat's (Thailand, 1976) manager wondered why he had not received any contact request during the six years he worked there. The project managers in Nam Khan (Laos) had hoped for more external advice during the first stages of the establishment of a new reserve: "The UNESCO follows the developments, but does not act as a motor. [...] They fear to intervene." When expectations are not met, individuals can condemn the whole concept, resign or turn away: Although the Egyptian BR Omayed was the first to be established in Egypt, the Environmental Ministry now prefers the categories of the IUCN for the classification of its protected areas. "

5.3 General guidance for improved management

Against the background of the results of the case studies' assessment and of the multiple tasks necessary to establish fully functioning biosphere reserves on the case studies' territory, only a general guide to protected area management can be provided here with a focus on the following issues:

1. BR management and sustainable regional development
2. Participatory management
3. Capacity development

Indispensable prerequisite for any improvement in management is the establishment of an independent management unit for each of the Biosphere Reserves. Another crucial point that was raised in the national assessments is the missing legal framework for biosphere reserves. In order to 'legalise' biosphere reserves, the establishment of biosphere reserves as a protected area category in national legislation through at least a framework legislation for biosphere reserves is claimed (DABROWSKI 2006; KOVÁCS 2006; URBAN 2006). However, this claim follows a traditional command-and control approach to nature conservation policy while long-term success of nature

conservation is more strongly linked to societal participation and collaborative ecosystem management than on normative action. Further, the political effort to establish a legal protected area category 'biosphere reserve' needs societal support that seems to be widely lacking in the CEECs as environmental awareness is considered to be low. Additionally, this effort takes place on the national level tying financial resources and man power again to this level instead of concentrating them on the reinforcement of the generally poorly developed sub-regional structures. Further and despite of the need to establish an appropriate zonation scheme for each of the Biosphere Reserves, national legislations already make provisions for the core zones and the buffer zones of the Biosphere Reserves under the regime of National Parks. The outer transition area is dedicated to the promotion and development of sustainable resource management practices and could therefore be subject to agri-environmental management schemes as funded by the EU.

Thus priority should be given to embedding biosphere reserve management into the regional development context, to facilitating stakeholder involvement and to developing the respective capacities in the biosphere reserves' staff and in the stakeholder community.

BR management and sustainable regional development

Biosphere Reserve management in democratic European states follows the governance type of a co-managed area. The variety of interconnected interests necessitates complex processes and institutional mechanisms to share management authority and responsibility among a plurality of actors. This type of protected area management is characterised by the need to achieve some form of consensus, compromise or common vision among a variety of societal actors (BORRINI-FEYERABEND 2004).

Cooperative BR management finds its correspondent in models for cooperative regional development. Cooperation between different players and institutions of a region is the necessary outcome when implementing any strategy with the objective of sustainability in regional development. Three factors are of primary importance (GEORGI 2003):

1. involvement of people who are active in regional development and dispose of the required skills to elaborate and implement processes and projects;
2. elaboration of a concept tailored to the regional situation and supported by the different actors and interest groups;
3. implementation of the process, i.e. structures and procedures including process and project management, developed within the scope of cooperation.

The interlinkage of nature conservation and sustainable regional development is increasingly recognised on the international level. There are a number of institutions promoting this effort and supporting it through their programming and funding. The Global Environment Facility (GEF) supports the mainstreaming of protected areas for increasing their effectiveness and for integrating biodiversity conservation in national and international policy frameworks. Focus of these activities are environmental education and awareness raising (GEF SECRETARIAT 2004). While the GEF has the largest biodiversity budget, other relevant multilateral and bilateral funding agencies active in the field of ecosystem management are the World Bank, the regional development banks such as ADB and IADB, the European Community, and the national development agencies of the donor countries. Implementing agencies for the GEF and its Operational Programme 12 on Integrated Ecosystem Management are UN organisations such as UNEP, UNDP, FAO and UNESCO (HARTJE et al. 2003).

Participatory management

Cooperative and collaborative BR management should be characterised by collective decision-making as different owners and interest groups are affected by management decisions. It requires the acquiescence of a broad cross section of society and implies the need to blend organisational and community planning through collaboration among resource owners, managers and users in a public dialogue. This requires a much more active role for citizens than has been true for traditional single-sided nature conservation approaches (CORTNER & MOOTE 1999).

To enable this sort of civic dialogue or discourse, needs and concerns of each interest group or individual should be addressed during the planning process permitting the various participants to gain an understanding of each other's values, interests, and concerns, as well as the legal and policy constraints on administrative decision making.

Some basic features for successful participatory management are thus (KOTHARI 2004):

- Clarify roles of all stakeholders and partners involved
- Initiate a process of dialogue
- Create empowered institutions
- Set up accessible and transparent dispute resolution mechanisms

However, a participatory dialogue for collaborative biodiversity management requires communication skills such as active listening, respecting others' opinions, and presenting ideas clearly. These skills are often lacking among citizens, scientists, re-

source managers and representatives of interest groups what is proved by one of the case studies (URBAN 2006).

Even more, biosphere reserves as agents for participatory management need to fulfil a variety of tasks that might not be part of their original self-conception (GEOGHEGAN & RENARD 2002):

- Animation and facilitation of active stakeholder participation in management decisions;
- Capacity building among state and civil society partners; and
- Mediation in order to manage conflicts among stakeholders on the uses of the reserve's resources.

However, communication remains the crucial issue in participatory management. A communication strategy that considers and serves the different information needs of stakeholder groups and individuals through e.g. audiovisuals, TV commercials, radio programmes, workshops and meetings should therefore be a central instrument for participatory management.

Capacity development

The Seville Strategy aims at the integration of conservation efforts for biodiversity with approaches to sustainable development. As the case studies demonstrate, the implementation of nationally agreed integrated programmes for sustainable development on the sub-regional level is lagging behind. Thus it is not surprising, that integrated policy formulation and implementation was identified as a priority goal for capacity development efforts in CEECs. Important actors are administration staff, politicians on national, regional and sub-regional level, the public, NGOs, and academia (KORN et al. 2004b).

Against the background of the case studies and the deficits concerning the national implementation of the Seville Strategy, capacity building among involved administration, stakeholder and management individuals and bodies should thus be focused on the following issues:

- Enforce integrated policy formulation and implementation: Reasons that underpin the priority of this issue are increased public involvement, improved vertical and horizontal integration as well as law enforcement, and enhanced effectiveness of existing capacities
- Communicate the ecological, social and economic implications of the Seville Strategy to experts in nature conservation (academia, administration) and to

the broader public: As shown in chapter 2, the Seville Strategy is in line with integrated ecosystem management concepts such as the CBD's Ecosystem Approach. However, the perception of biosphere reserves as scientific laboratories is still prevailing. There is often only poor understanding of the concept in the broader public. The production and dissemination of information material concerning biosphere reserves and e.g. sound tourism development is an essential tool. The establishment of environmental education programmes and the involvement of local people into these activities support this activity.

- Communicate scientific knowledge and trigger transdisciplinary research efforts: Information flow from academia towards society is hampered by the complexity of research results integrating ecological, economic and socio-cultural aspects. Sustainability is not easy to communicate and needs professional communication support. Due to lacking communication, research designs cannot sufficiently take into account interests and capacities of resource users.
- Increase the understanding of political processes: Political science plays only a minor role in biodiversity management. Therefore, knowledge on current governance structures, political processes, role of different actors and institutions as well as the effects of multi-level decision making is limited and needs to be enhanced.
- Support civic engagement and institution building on the local level: Integrated approaches to ecosystem management need informed, pro-active and organised societal support. Civic engagement can be triggered by many of the above mentioned activities, however, institution building for an enhanced articulation of interest groups is of special relevance. Valuable examples exist, e.g. the Hungarian Dialogue on Water for Food and Environment (HARMONICOP 2005).

5.4 Challenges for the institutional frameworks

Creation of an independent management unit for the Biosphere Reserves

Considering the Seville Strategy and in particular Art. 3 of its Statutory Framework, biosphere reserves “strive to be sites of excellence to explore and demonstrate approaches to conservation and sustainable development on a regional scale”.

In order to fulfil this task, biosphere reserves should dispose of a fully functioning and independent management unit with an appropriate budget. The prominent task of this management unit is to enable the BR to fulfil the objectives of the Seville Strategy.

Furthermore and in line with collaborative ecosystem management approaches, Art 4 Para. 6 calls for „organizational arrangements (...) for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.“

A strict and rigorous enforcement of the regulative framework laid out in the Seville Strategy and the Statutory Framework for Biosphere Reserves is needed with regards to both the designation procedure for and the periodic review of biosphere reserves.

Re-organisation of the National Park administrations and redistribution of management tasks between BR and NP administration

In order to avoid duplication of work and to clarify the role of the two institutions in the regional development context, a re-organisation of the NP administration and a redistribution of management tasks between the two entities is necessary.

Fund raising

Experts are needed that are skilled with respect to regional development funds and other international development programmes integrating biodiversity conservation and sustainable use of natural resources.

Staff recruitment

Taking the deficits in communication, information exchange and stakeholder involvement into account, besides protected area managers and biodiversity experts professionals from social and political sciences as well as economists should be recruited.

5.5 Further implementation of the UNESCO-MAB Programme

The challenges for the further implementation of the UNESCO-MAB Programme are centred around the role of the National MAB Committees. The National MAB Committees provide the link between the international or regional level and the national level in the global network of biosphere reserves. They play a central role in the designation process for biosphere reserves reviewing national nominations for the World Network of Biosphere Reserves and in that check the accomplishment of the Statutory Framework's regulations.

The designation process is worth a more close look. Although this process varies from country to country and possibly even case by case, there is a general pattern. The first stage is to complete a biosphere reserve application. The motivation to apply for the status of a biosphere reserve can be anything from preserving community's environment to improving research options or sanitising the image of an existent protected

area. Once the application is completed, it is submitted via the National MAB Committee or Focal Point to UNESCO's Secretariat to be reviewed by the Advisory Committee on Biosphere Reserves (ACBR) and for final approval by UNESCO's general conference. The crucial point in the process is that there is usually a lot of inputs from different scientific organisations during the whole process but rather no involvement of community interests. Thus, when understanding biosphere reserves as agents for collaborative regional management for biodiversity conservation and sustainable development some adjustments concerning the role of the involved UNESCO-MAB institutions should be considered.

The effectiveness of MAB-NCs is hampered by a series of issues:

- Lacking funds (no fund raising activities)
- Lacking personnel (honorary members mostly from the science sector)
- Lacking national strategies (concerning communication, implementation, management and monitoring concepts)
- Limited support to information exchange (between national BRs as well as with the global network)
- Limited public relation efforts
- No involvement of community interests

In future and in addition to their original tasks, MAB-NCs should support national BRs with expertise concerning fund raising, regional development strategies and programmes, participatory management and communication strategies. Representatives of communities that are involved in the national biosphere network should be represented in the MAB-NCs. The composition of professional expertise in the MAB-NCs should reflect the integrative approach of the Seville Strategy. In general, MAB-NCs have to play a much more pro-active role in the network and have to more closely follow the principles laid out in UNESCO's 'Guidelines for establishing MAB National Committees'.

To avoid in future biosphere reserves not capable of acting and fulfilling their role in the regional development context, appropriate bodies of the UNESCO-MAB Programme (ICC and ACBR) ought to be more rigorous in the procedures of designation and periodic review of biosphere reserves. They should offer support to BRs that are in danger to be removed from the network list. A comprehensive monitoring system based on the provisions laid out in the Statutory Framework and Seville Strategy should be established.

Further, the WNBR should be enabled to be an information hub between the MAB Secretariat, the regional sub-networks, the National MAB Committees and the individual biosphere reserves. The WNBR and its directory at the UNESCO MAB website should be re-designed to serve as a platform for exchanging information and experiences in order to enable mutual learning between the biosphere reserves.

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ANNEXES

Annex 1: Principles and Guidelines of the CBD's Ecosystem Approach

The **Ecosystem Approach** of the Convention on Biological Diversity (CBD) has been adopted by the Conference of Parties (COP) as the primary framework for action under the CBD. This was endorsed by the General Assembly of the United Nations in its Special Session in June 1997. In May 2000, COP-5 (Nairobi) agreed on the description, consisting of 12 principles and five operational guidelines (see box below). COP-7 (2004) adopted annotations to the rationale and implementation guidelines (Decision VII/11).

The Ecosystem Approach is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way whereas the term 'ecosystem' means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit (Article 2 of the CBD). The application of the Ecosystem Approach will help to reach a balance of the three objectives of the CBD: conservation, sustainable use and the fair and equitable sharing of benefits arising out of the utilization of genetic resources. The Ecosystem Approach looks beyond the boundaries of protected areas and promotes inter-sectoral cooperation, placing humans at the centre of conservation efforts.

Principles and Guidelines of the CBD's Ecosystem Approach

12 Principles

1. The objectives of management of land, water and living resources are a matter of societal choice.
2. Management should be decentralized to the lowest appropriate level.
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
4. Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management program should (a) reduce those market distortions that adversely affect biological diversity; (b) align incentives to promote biodiversity conservation and sustainable use; (c) internalize 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. Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.
9. Management must recognize 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.

5 Operational Guidelines

1. Focus on the functional relationships and processes within ecosystems.
2. Enhance benefit-sharing.
3. Use adaptive management practices.
4. Carry out management actions at the scale appropriate for the issue being addressed, with decentralization to lowest level, as appropriate.
5. Ensure inter-sector cooperation.

The Ecosystem Approach provides a common ground and evaluation frame of reference for existing approaches to ecosystem management. In contrast to traditional sector approaches that are based on centralised, hierarchical top-down management concepts and a rigid form of decision making with strong reliance on experts, the CBD's Ecosystem Approach promotes a trans-disciplinary approach that is founded on a decentralized adaptive management with a strong focus on incentives, innovation, and shared learning, combined with a deliberated form of decision making, within which all stakeholders' opinions count. Therefore, the CBD's Ecosystem Approach fits well in the general consensus on the need for a new paradigm for natural resource management (HARTJE et al. 2002).

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Annex 2: The Statutory Framework of the World Network of Biosphere Reserves

- Introduction
- Article 1 - Definition
- Article 2 - World Network of Biosphere Reserves
- Article 3 - Functions
- Article 4 - Criteria
- Article 5 - Designation procedure
- Article 6 - Publicity
- Article 7 - Participation in the Network
- Article 8 - Regional and thematic subnetworks
- Article 9 - Periodic review
- Article 10 - Secretariat

Introduction

Within UNESCO's Man and the Biosphere (MAB) Programme, biosphere reserves are established to promote and demonstrate a balanced relationship between humans and the biosphere. Biosphere reserves are designated by the International Coordinating Council of the MAB Programme, at the request of the State concerned. Biosphere reserves, each of which remains under the sole sovereignty of the State where it is situated and thereby submitted to State legislation only, form a World Network in which participation by the States is voluntary.

The present Statutory Framework of the World Network of Biosphere Reserves has been formulated with the objectives of enhancing the effectiveness of individual biosphere reserves and strengthening common understanding, communication and co-operation at regional and international levels.

This Statutory Framework is intended to contribute to the widespread recognition of biosphere reserves and to encourage and promote good working examples. The de-listing procedure foreseen should be considered as an exception to this basically positive approach, and should be applied only after careful examination, paying due respect to the cultural and socio-economic situation of the country, and after consulting the government concerned.

The text provides for the designation, support and promotion of biosphere reserves, while taking account of the diversity of national and local situations. States are encouraged to elaborate and implement national criteria for biosphere reserves which take into account the special conditions of the State concerned.

Article 1 - Definition

Biosphere reserves are areas of terrestrial and coastal/marine ecosystems or a combination thereof, which are internationally recognized within the framework of UNESCO's programme on Man and the Biosphere (MAB), in accordance with the present Statutory Framework.

Article 2 - World Network of Biosphere Reserves

1. Biosphere reserves form a worldwide network, known as the World Network of Biosphere Reserves, hereafter called the Network.
2. The Network constitutes a tool for the conservation of biological diversity and the sustainable use of its components, thus contributing to the objectives of the Convention on Biological Diversity and other pertinent conventions and instruments.
3. Individual biosphere reserves remain under the sovereign jurisdiction of the States where they are situated. Under the present Statutory Framework, States take the measures which they deem necessary according to their national legislation.

Article 3 - Functions

In combining the three functions below, biosphere reserves should strive to be sites of excellence to explore and demonstrate approaches to conservation and sustainable development on a regional scale:

- (i) conservation - contribute to the conservation of landscapes, ecosystems, species and genetic variation;
- (ii) development - foster economic and human development which is socio-culturally and ecologically sustainable;
- (iii) logistic support - support for demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development.

Article 4 - Criteria

General criteria for an area to be qualified for designation as a biosphere reserve:

1. It should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions.
2. It should be of significance for biological diversity conservation.
3. It should provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale.
4. It should have an appropriate size to serve the three functions of biosphere reserves, as set out in Article 3.
5. It should include these functions, through appropriate zonation, recognizing:
 - (a) a legally constituted core area or areas devoted to long-term protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives;
 - (b) a buffer zone or zones clearly identified and surrounding or contiguous to the core area or areas, where only activities compatible with the conservation objectives can take place;
 - (c) an outer transition area where sustainable resource management practices are promoted and developed.
6. Organizational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.

7. In addition, provisions should be made for:

- (a) mechanisms to manage human use and activities in the buffer zone or zones;
- (b) a management policy or plan for the area as a biosphere reserve;
- (c) a designated authority or mechanism to implement this policy or plan;
- (d) programmes for research, monitoring, education and training.

Article 5 - Designation procedure

1. Biosphere reserves are designated for inclusion in the Network by the International Co-ordinating Council (ICC) of the MAB programme in accordance with the following procedure:

- (a) States, through National MAB Committees where appropriate, forward nominations with supporting documentation to the secretariat after having reviewed potential sites, taking into account the criteria as defined in Article 4;
- (b) the secretariat verifies the content and supporting documentation: in the case of incomplete nomination, the secretariat requests the missing information from the nominating State;
- (c) nominations will be considered by the Advisory Committee for Biosphere Reserves for recommendation to ICC;
- (d) ICC of the MAB programme takes a decision on nominations for designation. The Director-General of UNESCO notifies the State concerned of the decision of ICC.

2. States are encouraged to examine and improve the adequacy of any existing biosphere reserve, and to propose extension as appropriate, to enable it to function fully within the Network. Proposals for extension follow the same procedure as described above for new designations.

3. Biosphere reserves which have been designated before the adoption of the present Statutory Framework are considered to be already part of the Network. The provisions of the Statutory Framework therefore apply to them.

Article 6 - Publicity

1. The designation of an area as a biosphere reserve should be given appropriate publicity by the State and authorities concerned, including commemorative plaques and dissemination of information material.

2. Biosphere reserves within the Network, as well as the objectives, should be given appropriate and continuing promotion.

Article 7 - Participation in the Network

1. States participate in or facilitate co-operative activities of the Network, including scientific research and monitoring, at the global, regional and subregional levels.

2. The appropriate authorities should make available the results of research, associated publications and other data, taking into account intellectual property rights, in order to ensure the proper functioning of the Network and maximize the benefits from information exchanges.

3. States and appropriate authorities should promote environmental education and training, as well as the development of human resources, in co-operation with other biosphere reserves in the Network.

Article 8 - Regional and thematic subnetworks

States should encourage the constitution and co-operative operation of regional and/or thematic subnetworks of biosphere reserves, and promote development of information exchanges, including electronic information, within the framework of these subnetworks.

Article 9 - Periodic review

1. The status of each biosphere reserve should be subject to a periodic review every ten years, based on a report prepared by the concerned authority, on the basis of the criteria of Article 4, and forwarded to the secretariat by the State concerned.
 2. The report will be considered by the Advisory Committee for Biosphere Reserves for recommendation to ICC.
 3. ICC will examine the periodic reports from States concerned.
 4. If ICC considers that the status or management of the biosphere reserve is satisfactory, or has improved since designation or the last review, this will be formally recognized by ICC.
 5. If ICC considers that the biosphere reserve no longer satisfies the criteria contained in Article 4, it may recommend that the State concerned take measures to ensure conformity with the provisions of Article 4, taking into account the cultural and socio-economic context of the State concerned. ICC indicates to the secretariat actions that it should take to assist the State concerned in the implementation of such measures.
 6. Should ICC find that the biosphere reserve in question still does not satisfy the criteria contained in Article 4, within a reasonable period, the area will no longer be referred to as a biosphere reserve which is part of the Network.
 7. The Director-General of UNESCO notifies the State concerned of the decision of ICC.
 8. Should a State wish to remove a biosphere reserve under its jurisdiction from the Network, it notifies the secretariat. This notification shall be transmitted to ICC for information. The area will then no longer be referred to as a biosphere reserve which is part of the Network.
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Article 10 - Secretariat

1. UNESCO shall act as the secretariat of the Network and be responsible for its functioning and promotion. The secretariat shall facilitate communication and interaction among individual biosphere reserves and among experts. UNESCO shall also develop and maintain a worldwide accessible information system on biosphere reserves, to be linked to other relevant initiatives.
2. In order to reinforce individual biosphere reserves and the functioning of the Network and subnetworks, UNESCO shall seek financial support from bilateral and multi-lateral sources.
3. The list of biosphere reserves forming part of the Network, their objectives and descriptive details, shall be updated, published and distributed by the secretariat periodically.



Aggteleki Nemzeti Park

Aggtelek Biosphere Reserve and National Park is situated in a vast karst area which belongs to the southern limestone foothills of the Carpathian Mountains, at the northern frontier of Hungary with the Slovak Republic.

Aggtelek Biosphere Reserve and National Park

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Babiogórski Park Narodowy

Babia Góra is the highest massif in the West Beskidy mountains which form part of the Western Carpathians, situated in the Southwest of Poland at the frontier with the Slovak Republic. With a peak of 1725 m, Babia Gora is a perfect example of plants zonation in European mountains.

Babia Góra Biosphere Reserve and National Park

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Správa Národního Parku Šumava

The Biosphere Reserve and National Park in the Šumava mountain range, situated along the southwest borders of the Czech Republic with Germany and Austria, covers a great variety of precious natural habitats, including remnants of primeval mountain forests, glacial lakes and extensive peat lands.

Šumava Biosphere Reserve and National Park

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Ökológiai Intézet a Fenntartható Fejlődésért Alapítvány

The Institute, founded in 1992, aims to promote the idea of sustainable development by building understanding on the idea of sustainability and helping the practical implementation of sustainable development.

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Stowarzyszenie Przyjaciele Babiej Góry

The main goal of the Friends of Babia Gora Association is to support sustainable development of local communities living around Babia Góra through the development of the economic sector with simultaneous protection of its rich natural and cultural heritage.

Friends of Babia Góra

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Ústav systémove biologie a ekologie, Akademie věd České republiky

The Institute, established in 1993, focuses on dynamic properties of biological and ecological systems at various hierarchical levels, from molecules to landscape. Scientific research and graduate education are its primary activities.

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Ökologischer Tourismus in Europa (Ö.T.E.) e.V.

The society, founded 1991, offers information and education about environmentally friendly forms of tourism. It carries out regional model projects designed to promote sustainable tourism as an element of sustainable regional development.

Ecological Tourism in Europe

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