Handbook on the Carpathian Convention

REGIONAL ENVIRONMENTAL CENTER

Ministry for the Environment
Land and Sea

FONDO FIDUCIARIO ITALIANO ITALIAN TRUST FUND
MINISTRY FOR THE ENVIRONMENT, LAND AND SEA, ITALY

EURAC research

Handbook on the Carpathian Convention

Prepared by
The Regional Environmental Center for Central and Eastern Europe
and the **European Academy Bolzano**

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About the REC

The Regional Environmental Center for Central and Eastern Europe (REC) is a non-partisan, non-advocacy, not-for-profit international organisation with a mission to assist in solving environmental problems in Central and Eastern Europe (CEE). The center fulfils this mission by promoting cooperation among non-governmental organisations, governments, businesses and other environmental stakeholders, and by supporting the free exchange of information and public participation in environmental decision making.

The REC was established in 1990 by the United States, the European Commission and Hungary. Today, the REC is legally based on a charter signed by the governments of 28 countries and the European Commission, and on an international agreement with the government of Hungary. The REC has its head office in Szentendre, Hungary, and country offices and field offices in 17 beneficiary countries, which are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia and Turkey.

Recent donors are the European Commission and the governments of Austria, Belgium, Bosnia and Herzegovina, Bulgaria, the Czech Republic, Croatia, Denmark, Estonia, Finland, Germany, Hungary, Italy, Japan, Latvia, Lithuania, the Netherlands, Norway, Poland, Slovakia, Slovenia, Sweden, Switzerland, the United Kingdom, and the United States, as well as other inter-governmental and private institutions.

About EURAC

The European Academy (EURAC) is an innovative institute for research and scientific training, located in Bolzano, Italy (www.eurac.edu). Founded in 1992, it is divided into nine research institutes. The institute's international character is especially noticeable in the diverse origins of its staff: 120 researchers from 11 different European countries are currently working at EURAC.

Located in the central Alps, EURAC is in an ideal position to carry out applied research in mountainous regions, and is proud to host the outposted seat of the permanent secretariat of the Alpine Convention.

One of the research institutes of the EURAC is the Coordination Unit "Alpine Convention-IMA (International Mountain Agreements)" that is directly involved in the consulting activities that the European Academy gives to Italian institutions, such as the Italian Ministry for the Environment, Land and Sea, and to international institutions, such as, for example, UNEP, OECD, the European Commission and the Mountain Partnership.

In the framework of the Carpathian Convention EURAC has been really active since the period of the Italian Presidency of the Alpine Convention, (2001-2002) together with UNEP and some Countries from the Carpathian Area in the promotion of this Convention; for example EURAC organised and hosted the first negotiation meeting for the Carpathian Convention in June 2002, and the last one where the draft of the Convention was finalised in March 2003.

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Foreword

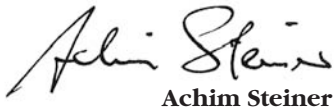
The Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention), signed in May 2003 in Kiev, entered into force on January 4, 2006. The Convention is an important vehicle for helping to achieve the protection and sustainable development of the Carpathian Mountains region. The United Nations Environment Programme (UNEP) is delighted to serve as the Convention's interim secretariat hosted by Austria in Vienna.

The Carpathian Mountains are a major ecological, economic, cultural, recreational and living environment in the heart of Europe. They are shared by seven Central and Eastern European countries, five of which have already joined the European Union. The Carpathians are an important reservoir for biodiversity and Europe's last refuge for large mammals such as the brown bear, wolf and lynx as well as home to populations of European bison, moose, wildcat, chamois, golden eagle, eagle owl, black grouse and many unique insect species.

The Handbook was produced by the Regional Environmental Center in partnership with the European Academy Bolzano under the umbrella project Support for the Implementation of the Carpathian Convention in the Framework of the Alpine-Carpathian Partnership. It has been financially supported by the Italian Ministry for Environment, Land and Sea and is targeted at local authorities in Carpathian countries. It represents a valuable contribution to the sustainable development of the Carpathian Mountains region by supporting efforts towards the implementation of the Carpathian Convention through increased awareness and ownership on the part of local authorities.

There is detailed analysis, article by article, of the substantive provisions of the Convention, which is complemented by examples of ways in which the obligations of the Convention can be met, including the identification of good practices. The Handbook also offers a useful investigation of the strong, mutually supportive links between the Convention and existing multilateral environmental agreements.

One of the Handbook's strengths is its thorough and analytical approach and practical aims. I recommend the publication to local authorities, indeed to all organisations and individuals involved in the implementation of the provisions of the Carpathian Convention.



Achim Steiner
UN Under Secretary General and
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We extend our gratitude to the REC publishing team for their hard work on copy-editing, proofreading, lay-out and design of the Handbook, and to Rachel Hideg for her kind assistance throughout the process.

List of Abbreviations

CAP	Common Agricultural Policy
CEE	Central and Eastern Europe
CERI	Center For International Studies And Research
CoP	Conference of the Parties
CGIAR	Consultative Group on International Agricultural Research
C&I	Criteria and indicators
CP	Cleaner production
DG	Directorate-General
EC	European Commission
EEA	European Environment Agency
EIA	Environmental impact assessment
ESDP	European Spatial Development Perspective
ESPON	European Spatial Planning Observation Network
EU	European Union
EURAC	European Academy Bozen/Bolzano
FAO	Food and Agriculture Organization of the United Nations
FSC	Forest Stewardship Council
GEF	Global Environment Facility
GMO	Genetically modified organism
ICPDR	International Commission for the Protection of the Danube River
IFF	Intergovernmental Forum on Forests
IPF	Intergovernmental Panel on Forests
IPPC	Integrated pollution prevention and control
ISCC	Interim Secretariat of the Carpathian Convention
IWRM	Integrated water resources management
LFA	Less favoured areas
LANDEP	Landscape ecological planning
MEA	Multilateral environmental agreement
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
ROP	Rules of procedure
REC	Regional Environmental Center for Central and Eastern Europe
SAP	Stabilisation and Association process
SAPARD	Special Accession Programme for Agriculture and Rural Development
SARD	Sustainable Agriculture and Rural Development
SEA	Strategic environmental assessment
SEE	South Eastern Europe
SFM	Sustainable forest management
THE PEP	Transport, Health and Environment Pan-European Programme
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNEP/ROE	United Nations Environment Programme — Regional Office for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	World Tourism Organization
WHO	World Health Organization

How to Use the Handbook

This Handbook is intended to be a practical tool for local authorities to assist them in taking action and developing policies and practices to help in the protection of, and the promotion of sustainable development in, the Carpathians through the international framework for cooperation set up under the Carpathian Convention. While it is the states that have obligations under the Convention, all actors in society have their roles to play. Local authorities will be faced with policies, legal provisions, plans and programmes adopted by their governments to meet the Convention's obligations. But more importantly, the Convention may be a source of strength for local authorities' own efforts to protect the Carpathian region, for example by introducing new possibilities for trans-boundary cooperation. Through the presentation and promotion of this Handbook, we hope to encourage local authorities to make progress in this direction.

Outline of the Handbook

The Handbook includes a list of abbreviations and an introduction providing background information on the Carpathian Convention, a chapter on the preamble of the Convention, a section divided into chapters analysing article by article the substantive provisions of the Convention (articles 1-13, with articles 3 and 5 being presented together), a section on institutional aspects (referring to articles 14 to 16 of the Convention) and annexes. An index and a list of boxes are also provided at the end of the Handbook.

Structure of the chapters

All of the chapters follow the same structure:

1. Full text of the article;
2. Short introduction, presenting the situation in general and in mountainous areas depending on the topic covered by the convention;
3. Paragraph by paragraph review, including:

- The exact text of the paragraph;
- **Major concepts** — The main principles and concepts appear in bold in the text, and are defined and explained in detail to make them understandable to the reader. Cross-references between chapters are made when concepts are already explained under another chapter of the Handbook. The main concepts are also illustrated with boxes presenting best practices and cases studies, mainly in the Carpathian and Alpine regions, which are practical examples of ways to meet the obligations of the Convention.
- **Main relevant international agreements, legal instruments and initiatives** — As a framework convention dealing with many complex issues that have an impact on mountains, the Carpathian Convention incorporates international norms from a variety of other sources. Related international agreements and other instruments are discussed and related to the Carpathian Convention to demonstrate these synergies.
- **Responsibilities of local authorities** — The role, opportunities and responsibilities of local authorities are identified for each provision in order to help them in implementing the Carpathian Convention at local level. Emphasis is placed on trans-boundary cooperation, which is a core element of the Convention.

4. **Linkages with other articles** of the Convention, at the end of each chapter — Since the Convention's operative provisions set a general framework and are closely interlinked, a level of protection of the Carpathians can only be achieved through an integrative approach that takes into account of all the issues under the Convention.

Introduction

Why a Carpathian Convention?

The Carpathians are home to almost 4,000 plant species, including about one-third of the plant species existing in Europe that are found nowhere else in the world, as well as to Europe's largest populations of brown bears, wolves, lynx, European bison and rare bird species including the globally threatened imperial eagle. Some 45 percent of Europe's wolves — a species extinct in many Western and Central European countries — can be found here.[1]

The Carpathians possess a various cultural richness with traditional economic practices that respect the local environment and resources. For example, centuries of shepherding have led to the creation of numerous semi-natural habitats, including pastures and grasslands, such as in the species-rich Poloniny meadows in Slovakia and Poland. Furthermore, given their remoteness, large areas in the Carpathian region did not suffer the negative effects of planning of the communist period. Land collectivisation, for example, did not take place in some areas, thereby preserving many extensive small-scale farming practices and preventing the over-exploitation of forests.

The Carpathians represent a major freshwater resource: as much as one-third of the water outflow of the Vistula River originates from the Carpathians, and the region is the source of more than 80 percent of Romania's water reserves (excluding the Danube).[2] Moreover, large areas of the Danube and the Tisza river basins are part of the Carpathian region, too. Major rivers are sourced here — the Vistula, the Tisza, the Olt, and the Siret, to name just some — but it is the smaller rivers which provide much of the Carpathians' aquatic biodiversity. The small Carpathian rivers are among the cleanest in Europe.

In addition to fostering great biodiversity, the Carpathians are also home to around 16-18 million people. They live in this region in very different environments, ranging from small communities located in remote mountain areas to major urban centres, such as Kosice, Cluj-Napoca and Krakow.

In a rapidly developing world, the Carpathians are threatened from many sides. Poor management of natural resources, pollution, infrastructure development, tourism, unregulated hunting, grazing and illegal logging of trees all pose significant threats. The Carpathian region also has a special characteristic that sets it apart and magnifies the challenges to international cooperation — that is, the economic and social restructuring that has occurred since the fall of communism and that is still in process in most of the region. The Carpathian countries have to face the changes wrought by globalisation, increased trade, and global economic development just like the rest of the world, but in addition they have to do so in an inherently unstable milieu, while their own institutions, practices and norms are in a state of flux. For example, following the restitution of lands to their original owners, the forests of the Carpathians face another threat due to a lack of a centralised system of management run by the state. The private management of the land has given a free hand to farmers to maximise profit through high exploitation of the land, causing effects such as soil erosion. Although with the collapse of Communism there was a great decrease in industrial production, air and water pollution still represent a considerable problem, especially in the northwest Carpathian region. A key issue in the development of the region after the end of the communist system is the creation of a modern transport infrastructure. On one hand this is necessary for the economic development of the region; on the other hand it poses many risks in terms of conservation of the natural and cultural heritage of the Carpathians.

To counteract these threats in an effective way, joint international action to preserve the natural resources of the Carpathians is required. Committed to preserving the natural and cultural heritage of the Carpathians and inspired by the model of the Alpine Convention, the countries that occupy the territory of the Carpathians joined together to create an international legal framework, the implementation and further development of which shall be a primary tool for protecting the natural resources of the region.

The Framework Convention on the Protection and Sustainable Development of the Carpathians became thus the second sub-regional treaty-based regime for the protection of a mountain region worldwide, after the Alpine Convention.[3] The Carpathian Convention

is based on the principle of sustainable development, aiming at valuing and safeguarding the outstanding cultural and natural heritage of the region as the basis of sound development. The Convention strives to draw a balance between economic progress and social and environmental protection: this is the major challenge taking into account the particular economic, social and geographical features of the Carpathian countries.

The road to Kiev and the development of the Carpathian Convention

In 2001, Ukraine asked the United Nations Environment Programme — Regional Office for Europe (UNEP/ROE) to facilitate an intergovernmental consultation process among the Carpathian countries (Czech Republic, Hungary, Poland, Romania, then-Serbia and Montenegro, Slovakia and Ukraine) with the aim of drafting an international convention on the Carpathian Mountains to be adopted at the Fifth Ministerial Conference "Environment for Europe" in 2003. The first significant step took place with the formation of the Alpine-Carpathian Partnership, launched during the International Year of the Mountain (2002) and supported by the Presidency of the Alpine Convention, which in that period was held by Italy.

An initial, informal meeting was hosted by the Ukrainian government in Kiev on November 6-7, 2001, where participants agreed to a list of areas of cooperation from which the Carpathian environment would benefit. The formal negotiations between the Carpathian countries facilitated by UNEP/ROE took place during five preparatory meetings.[4] Several international organisations, academic institutions and NGOs provided support to the negotiation process, including the Regional Environmental Center for Central and Eastern Europe (REC) and the European Academy (EURAC) in Bolzano, the host of the scientific and operational seat of the Alpine Convention Secretariat.

The Framework Convention on the Protection and Sustainable Development of the Carpathians was adopted in Kiev in May 2003 during the "Environment for Europe" Ministerial Conference. On May 1, 2004, the Interim Secretariat of the Carpathian Convention (ISCC) was opened in the Vienna offices of UNEP, financed on a voluntary basis by the Carpathian states with substantial support from the Austrian government. Following the required four ratifications,[5] the Convention entered into force on January 4, 2006.

The Carpathian Convention among multilateral environmental agreements

Starting in the 1970s, when environmental concerns began to play a role on the international political agenda, a significant number of multilateral environmental agreements (MEAs) have been adopted at the global, regional and sub-regional levels. These agreements focus either on specific aspects of environmental protection (e.g. desertification, climate change) specific environmental media (water, biodiversity) or specific natural resources, most frequently water bodies.

Against the background of this multitude of agreements, one may question the necessity of a new agreement covering, to a certain extent, topics which are already subject to existing MEAs, and to which the majority of the Carpathian countries are already party. The answer is that the Carpathian Convention (and the Alpine Convention before it) combines concerns about environmental protection and the life of local communities with developmental considerations in a comprehensive set of principles relevant to a particular, unique geographic area. This geographic focus, and the establishment of institutions and a framework for cooperation among people interested in these mountains, is the main added value of the Convention.

The Convention fosters a platform for exchange on a wide variety of issues among the Carpathian countries. This platform will advance the international legal regime for mountains gradually, through the further development of protocols, decisions, guidance, and other means. Transboundary mountain regions are so specific that they require special measures for protection that focus on natural and cultural heritage, without losing sight of the human aspect. The Carpathian Convention is needed to promote sustainable development of the Carpathian region and to draw the attention of governments, international organisations and stakeholders to the need for enhanced coordinated efforts for preserving and protecting the Carpathians and its traditions. Measures taken individually by the Carpathian countries, even though they pursue environmental goals, could be rendered useless if they are not supported by similar measures across the whole region. An international agreement is an effective tool to enhance the impact of national efforts and ensure a coordinated approach across the Carpathians.

When analysing individual substantive articles of the Convention, it is important to keep in mind that compliance with already existing relevant agreements contributes to ensuring implementation of the Convention. For example, implementation of the Convention on Biological Diversity contributes to implementation of article 4 of the Carpathian Convention. It is

also expected that the activities for the implementation of the Carpathian Convention will lead to specific sub-regional contributions to these global and regional agreements.

Apart from the Alpine Convention, sub-regional conventions related to shared natural resources have tended to focus on water bodies and to regulate water management and public participation issues. Such agreements have been adopted at the regional level (the UNECE Convention on the Protection and Use of Transboundary Watercourses and Lakes) or sub-regional level, with respect to individual water bodies: rivers (e.g. the Convention on the Protection of the Rhine, Convention on Co-operation for the Protection and Sustainable Use of the Danube River, International Framework Agreement on the Sava River Basin), seas (e.g. the Barcelona Convention for the Protection of the Mediterranean Sea against Pollution, the Convention for the Protection of the Black Sea against Pollution, the Convention on the Protection of the Marine Environment of the Baltic Sea Area) or lakes (e.g. the Convention for the Protection of Lake Constance against Pollution).

Other regions that are tentatively following the path of the Alpine and Carpathian conventions, and in early 2007 were in a negotiating process, include:

- the Altai Range, shared by China, Kazakhstan, Mongolia and the Russian Federation — a Protocol of Intentions was adopted in 1998, whereby the four countries recognise the need to improve economic development, to generate income and to develop infrastructure (Pradhan, 1999); and
- the Caucasus Range, shared by Armenia, Azerbaijan, Georgia and the Russian Federation — at a meeting held in June 2001 these countries adopted a resolution which recognised the Caucasus as one of the most important mountain ecosystems of the Earth.

The Carpathian Convention and the Alpine Convention

The Alpine Convention provides a successful model for coordinated or joint international action for protection of mountain ecosystems. The convention has enhanced cooperation between countries and their commitment to the sustainable development of the Alpine region. The Berchtesgaden Declaration on Mountain Range Regional Cooperation recognised "the global significance of the lessons provided by the Alpine Process as the only example worldwide of a legally binding inter-governmental mountain agreement," and stated further that the Convention "has evolved — despite some difficulties — into a successful platform for regional exchange and negotiations and for sustainable development."

In 1989 the governments of the Alpine countries and the European Commission started talks on the Alpine Convention, which was signed on November 7, 1991 in Salzburg by Austria, France, Germany, Italy, Liechtenstein, Switzerland, and the European Community. Slovenia signed the convention on March 29, 1993, and Monaco became a party on the basis of a separate additional protocol. The convention entered into force on March 6, 1995.

The Convention for the Protection of the Alps is a "framework convention," setting general principles and obligations that provide the legal structure within which the parties to the Convention function. It has implementation protocols that define specifically the binding obligations of the contracting parties.[6] Its impacts are well summarised in a statement by UNEP's Klaus Toepfer:[7] "The 1991 Alpine Convention gave Europe a comprehensive policy on the protection and sustainable development of the Alps, one of the largest European ecosystems. […] Other regions of the world can perhaps learn from these experiences."

The Alpine Convention came about because of the need to have common mountain policies for tourism, transport, forest management, agriculture, physical planning, economics, protected areas and energy. The problems faced in the Alps, including extensive tourism and traffic, are specific to those mountains. As the EU expands eastward, some of these problems can be expected to also develop in the Carpathians. In addition, poverty and unemployment are among the problems to be tackled through a sustainable use of the natural resources of the Carpathians. The Carpathians regime will benefit greatly from the 15 years' experience of the Alpine Convention as the earliest international legal instrument for the protection of mountains.

In 2002 experts from the Alpine and the Carpathian countries met in Bolzano (Italy) for the conference entitled, "Sharing the Experience." The conference proved to be a perfect forum for exchange of experience and founded the basis for dialogue between the countries involved. During the meeting, the determination to develop the Carpathian Convention was confirmed with the help of the Alpine experts, and agreement was reached on potential elements to be included in the Convention. It also gave shape to the Alpine-Carpathian partnership, through which individual Alpine countries supported cooperation on the Carpathians and the development of the Convention.

Walking through the Convention

The Carpathian Convention is a framework convention. It defines general policy objectives that promote an integrated approach to the conservation of the Carpathian natural and cultural heritage. The Convention rarely establishes concrete, easily enforceable obligations, but rather invites the parties to cooperate towards the implementation of the principles agreed therein. This cooperation may take many forms, including a work programme under the Convention, joint bilateral or multi-lateral activities, international assistance, or coordinated national measures. One of the main mechanisms foreseen to render the broad range of topics and the various principles encompassed under the Convention enforceable is the adoption of specific thematic protocols, as provided in article 2, paragraph 3.

The Convention has a preamble that draws attention to the importance of the Carpathian region and makes linkages with various international legal agreements. Preambles are not legally enforceable but may aid in the interpretation of an instrument's substantive provisions.

The Convention contains 23 articles, the first two of which define the scope, objective, principles and approach of the Convention (articles 1-2). Articles 3-13 represent the core substantive obligations of the Convention, in which the objectives of the Convention are set forth in detail and a framework for future implementation is set up, covering the following subjects:

- integrated approach to land-resource management (art. 3);
- conservation and sustainable use of biological and landscape diversity (art.4);
- spatial planning (art. 5);
- sustainable and integrated water/river basin management (art. 6);
- sustainable agriculture and forestry (art. 7);
- sustainable transport and infrastructure (art. 8);
- sustainable tourism (art. 9);
- industry and energy (art. 10);
- cultural heritage and traditional knowledge (art. 11);
- environmental assessment/information system, monitoring and early warning (art. 12); and
- awareness raising, education and public participation (art 13).

The Convention's operative provisions set a general framework and are closely interlinked. Measures that would address only some of the articles will not lead to a satisfactory level of protection of the Carpathians. Several articles of the Convention touch upon issues belonging to another article of the document. In particular, article 5 points out that in the development of spatial planning policies and programmes, particular attention should be paid to issues regarding transport (art. 8), energy (art. 10), and the cross-border impact of pollution (art. 6). The management of tourism (art. 9), industry and energy (art. 10), and transport and infrastructure (art. 8) have a direct influence on every aspect of the conservation and restoration of the natural resources of the region.

Articles 14-16 define the institutional set-up of the Convention bodies, namely the Conference of the Parties, the Secretariat and subsidiary bodies. Article 17 establishes the obligation for the parties to provide financial contributions to the regular budget of the Convention. Articles 18 and 19 set up the procedure for adoption of protocols and amendments to the Convention. Articles 21-23 are standard clauses in an international agreement, laying down rules regarding the settlement of disputes, entry into force, withdrawal from the Convention, and the depositary.

Challenges to and opportunities for the implementation and further development of the Carpathian Convention

The challenge of the Convention for the future will be to take into account the natural wealth of the Carpathian region in all its aspects and to pursue simultaneously economic development of the region, protection of biodiversity and preservation of cultural heritage. In facing these challenges, the adoption of thematic protocols to the Carpathian Convention will be a significant step forward in reaching the objectives promoted by the Convention, as it will enable the setting up of concrete enforceable obligations to be taken by the parties. The approach taken in the Convention to integrate and link various sectoral concerns should be taken also when developing the future thematic protocols to the Convention, with a view to avoid conflicting aims and to ensure a coherent approach. The implementing experience of the Alpine Convention will be extremely valuable for the Carpathian countries in this respect. The protocols developed under the Alpine Convention, and lessons learned from negotiations and implementation will serve as guidance to the Carpathian countries.

The transition to a market economy system and the accession to the European Union of most of the Carpathian countries represent a significant change in the socio-economic system of the region and a challenge for the future in terms of combining economic and infrastructural development with environmental protection concerns. In moving towards joining the EU,

the Carpathian region can positively benefit from European legislation such as the Water Framework Directive, the directives on Environmental Impact Assessment and on Public Access to Environmental Information, and the Birds and Habitats Directives.

Serbia is harmonising its legislation to the environmental acquis as part of the Stabilisation and Association process (SAP) and with financial assistance from the Community Assistance for Reconstruction, Development and Stabilisation programme, replaced by the Instrument for Pre-Accession Assistance for the period 2007-2013,[8] and Ukraine has already committed itself to use the EU legislation as a model to modernise its legislation. The implementation of the Carpathian Convention represents a great opportunity to foster the development of a sustainable approach to development in the region and also to create a solid basis for Serbia's eventual accession to the EU and enhanced cooperation between the EU and Ukraine.

Bearing in mind that the Carpathians are a resource, not only for the countries to which they belong but for all of Europe, the Framework Convention represents an investment for the future. It is hoped that the process of implementing the Convention will help to preserve the natural treasures of the region, enhance transboundary cooperation and dialogue and attain sustainable development of the region.

Preamble of the Carpathian Convention

"The Parties"

ACKNOWLEDGING that the Carpathians are a unique natural treasure of great beauty and ecological value, an important reservoir of biodiversity, the headwaters of major rivers, an essential habitat and refuge for many endangered species of plants and animals and Europe's largest area of virgin forests, and AWARE that the Carpathians constitute a major ecological, economic, cultural, recreational and living environment in the heart of Europe, shared by numerous peoples and countries;

REALIZING the importance and ecological, cultural and socio-economic value of mountain regions, which prompted the United Nations General Assembly to declare 2002 the International Year of Mountains; RECOGNIZING the importance of Mountain areas, as enshrined in Chapter 13 (Sustainable Mountain Development) of the Declaration on Environment and Development ("Agenda 21", Rio de Janeiro, 1992), and in the Plan of Implementation of the World Summit on Sustainable Development;

RECALLING the Declaration on Environment and Sustainable Development in the Carpathian and Danube Region (Bucharest, 2001);

NOTING the pertinent provisions of and principles enshrined in relevant global, regional and sub-regional environmental legal instruments, strategies and programmes;

AIMING at ensuring a more effective implementation of such already existing instruments, and BUILDING upon other international programmes;

RECOGNIZING that the Carpathians constitute the living environment for the local people, and ACKNOWLEDGING the contribution of the local people to sustainable social, cultural and economic development, and to preserving traditional knowledge in the Carpathians;

ACKNOWLEDGING the importance of sub-regional cooperation for the protection and sustainable development of the Carpathians in the context of the 'Environment for Europe' process;

RECOGNIZING the experience gained in the framework of the Convention on the Protection of the Alps (Salzburg, 1991) as a successful model for the protection of the environment and sustainable development of mountain regions, providing a sound basis for new partnership initiatives and further strengthening of cooperation between Alpine and Carpathian states;

BEING AWARE of the fact that efforts to protect, maintain and sustainably manage the natural resources of the Carpathians cannot be achieved by one country alone and require regional cooperation, and of the added value of transboundary cooperation in achieving ecological coherence;

Have agreed as follows:

What is a Preamble?

A preamble is the introduction to an international treaty. It forms an integral part of the legal agreement even though it is not binding.

It places the agreement in a wider legal and political context, illustrates the principles for guidance in interpretation, and sets progressive goals for implementation. The preambular paragraphs identify principles that may help in:

- Interpreting the text of the instrument itself (expressing the will of the Parties);
- Interpreting the text of national implementing legislation;

- Placing the instrument within the system of law, showing its relationship to other areas of law;

A preamble is usually constructed as a sequence of secondary clauses setting forth the motives for the conclusion of the treaty by indicating the basis (shared principles already adopted in previous international instruments) and describing the state of past, present and future relations between the Contracting Parties. The preamble serves to denote not only the motives, but also the objective and purpose of the treaty.

The preamble is considered by article 31. paragraph 2 of the 1969 Vienna Convention on the Law of Treaties as being part of the context of the treaty, which is a useful tool to establish the meaning of treaty provisions and clarifying their scope.

Note: portions adapted from *The Aarhus Convention: An Implementation Guide* (UN, 2000)

The **Preamble to the Carpathian Convention** begins with an expression of the values that mountain areas represent as a means for emphasising the need for their protection, and further goes on to specify the unique and especially important aspects of the Carpathians themselves. It then refers to several processes and instruments that provide the context for the development of a sub-regional convention on a mountainous area, including the 2002 UN General Assembly Declaration on the Year of Mountains, Agenda 21 and the Plan of Implementation from the Earth Summit in Johannesburg. Other international processes are referred to without mentioning their names, but in the elaboration of the operative provisions of the Convention, the references become clear. For example, the Convention on Biological Diversity is a governing instrument for article 4.

Commonly, the preamble of a multilateral environmental agreement (MEA) can point to previous agreements, sometimes of a soft law character, that were important in the process of reaching the agreement on the multilateral treaty itself. In the case of the Carpathian Convention preamble, there is a reference to the Declaration on Environment and Sustainable Development in the Carpathian and Danube Region (Bucharest, 2001), in which heads of state and high representatives of Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, former Yugoslav Republic of Macedonia, Moldova, Poland, Romania, Slovakia and Ukraine declared, *inter alia*, their intention to encourage and support "activities for developing new intergovernmental regional instruments for conservation and sustainable development in the Carpathian region."

The preamble also makes reference to the Carpathian Convention as an example of "sub-regional cooperation." The sub-regional approach, whose value has been recognised at the United Nations Conference on Environment and Development (UNCED) in 1992 as a means of implementing MEAs, has become more widely applied since the World Summit on Sustainable Development (Earth Summit) took place in 2002. The UNCED recognised that regional and sub-regional actions build a bridge between "national realities and global priorities." The Plan of Implementation adopted at the Earth Summit emphasised regional and sub-regional implementation of the outcomes of the Earth Summit and particularly of Agenda 21. The true value of the sub-regional approach relates to the language in the preamble, that "the Carpathians constitute the living environment for the local people."

Finally, the preamble makes reference to the experience gained in the framework of the Convention on the Protection of the Alps (Salzburg, 1991). The Alpine Convention was the only convention on a mountain area existing at the time of the adoption of the Carpathian Convention, and the process of drafting the Carpathian Convention was able to benefit from the sharing of the experience developed in the framework of the Alpine Convention. Apart from the natural affinities between mountain areas, the Carpathian Convention also benefited directly from the strong involvement of some Alpine states, which took an interest in providing support to the Carpathian region.

Part I
Operative Provisions

Chapter A
Article 1

Article 1 – **Geographical scope**

1. The Convention applies to the Carpathian region (hereinafter referred to as the "Carpathians"), to be defined by the Conference of the Parties.

2. Each Party may extend the application of this Convention and its Protocols to additional parts of its national territory by making a declaration to the Depositary, provided that this is necessary to implement the provisions of the Convention.

The Carpathian Mountains cover about 210,000 square kilometres, forming an arc of about 1,450 kilometres from Bratislava in Slovakia to the Iron Gate in the valley where the Danube breaks through near Orsova in Romania.[9] The exact delimitation of the Carpathians under the Convention depends upon the criteria used, and whether uniform criteria for all countries or different criteria on the basis of national preferences are employed. The parties did not establish the confines of the Carpathian region at the first Conference of Parties in December 2006.

Main concepts

Article 1 of the Carpathian Convention deals with the scope of application of the Convention, that is to say the geographical area that is the focus of the Convention and its related measures to be implemented by the relevant authorities. A clear definition of the scope of application is crucial for effective implementation of any Convention. Where it is relevant to the purposes of a convention, the text indicates its geographical scope of application. Otherwise a treaty applies to the whole territory of the ratifying country.[10]

Careful delineation is especially important for the Carpathian Convention, which deals with a particular geographically distinct area within states. A framework mountain convention requires implementation of all the rules and measures related to the treaty according to an integrated approach, in the sense that the whole territory of the country, even the parts outside the scope of application, needs to be considered in a coherent perspective in order not to undermine the effectiveness of the implementation measures. If, through a convention, states wish to conserve biodiversity and sustainably manage agriculture, forests and infrastructure, a consistent and effective integrated approach on a national basis is required. Adopting a sustainable development approach towards mountain areas alone would undermine the Convention on account of the interrelationships and influences from outside the delineated territory. Such an integrative approach is promoted through paragraph 2 of article 1, discussed below.

Article 1 states that the Convention applies to the **Carpathian Region**, which is to be defined by the Conference of the Parties. The Conference of the Plenipotentiaries for the Adoption and Signature of the Carpathian Convention in Kiev in 2003 asked the interim Secretariat of the Carpathian Convention to prepare a comprehensive report and proposal[11] on the scope of application of the Carpathian Convention.

Following this request, **a scientific study** was developed on the scope of application of the Carpathian Convention by UNEP with the financial support of the Italian Ministry of the Environment and Territory and the scientific collaboration of EURAC. This scientific study, "Implementing an International Mountain Convention — an Approach for the Delimitation of the Carpathian Convention Area," aimed at presenting an integrated transnational and transparent approach for a homogeneous delimitation of the scope of application of the Carpathian Convention. The idea at the basis of the study was the need to apply an integrative approach in the delimitation of the scope of application of the Convention, in order to prescribe a geographical scope that guarantees the consistent and effective implementation of the Treaty. In particular, the study paid attention to reflect both the main goals and principles of the Convention and relevant EU policies and directives (e.g. Natura 2000 and the Water Framework Directive).

A second proposal for the delimitation of the scope of application of the Carpathian Convention has been developed under the Carpathians Environment Outlook (KEO) project, which was initiated in early 2004 by UNEP's Division of Early Warning and Assessment (DEWA)/GRID-Geneva and the Regional Office for Europe (ROE) with the aim of assisting the Carpathian countries in their attempts to promote sustainable development within the region. The KEO aims to produce a report in the middle of 2007: a sub-regional examination and synthesis of the environmental situation in the greater Carpathian region. The report is not meant to be a composite of seven national reports, but a geographically integrated report on the state and trends in the Carpathians environment, retrospectively over the past 30 years and forward to 2020.

Concerning the scope of application of the Carpathian Convention, the KEO's approach is based on the integrated transnational approach elaborated by EURAC, which was in due course verified, fine-tuned and modified by individual countries. The Carpathian Project does not define a single scope, but uses a twofold terminology as far as the data collection for the Carpathian Project is concerned: the Carpathian Region and the Carpathian Area. The "region" corresponds to the scope of the KEO, and covers mountainous regions. It is used as a minimum perimeter for data collection. The "area" comprises the wider Carpathian regional development space, used for broader data collection.

The two proposals for the scope of application have not been endorsed by the COP, which is expected to take a decision on the geographical scope of the Carpathians region at its second meeting in Romania in 2008. However, at the first COP,[12] the Carpathian countries adopted the much broader political notion of "Carpathian space" as "an area of economic, social and environmental progress and sustainability at the heart of Europe."

Finally, paragraph 2 of article 1 gives the state parties the possibility to **extend the application** of the Convention and its protocols to additional parts of their national territories by making a declaration to the depositary. The main difference between the scope of application as in article 1.1 and defined by the Conference of the Parties, and the additional scope of article 1.2 extended by each single state party with a unilateral declaration, is that the latter is on a voluntary basis. Therefore, the consent of all state parties is not required. Each state may decide that it is necessary to include in the scope of application some areas that are not properly mountainous areas. The only proviso is that the extension of the Convention to additional parts of the party's territory should be necessary for the effective implementation of the Convention. This appears to introduce an objective requirement, but it is not clear how such a determination could be demonstrated, or whether another party could challenge an extension by one party on the basis of this clause. Other treaties such as the Alpine Convention take a voluntary approach to the designation of areas covered by particular conventions.

Main relevant international agreements, legal instruments and initiatives

Article 15, paragraph 1 of the **International Plant Protection Convention** states: "Any contracting party may at the time of ratification or adherence or at any time thereafter communicate to the Director-General of FAO a declaration that this Convention shall extend to all or any of the territories for the international relations of which it is responsible."

Article 15 of the **European Landscape Convention**[13] on territorial application provides that:

BOX 1

Elaboration of the convention perimeter of the Alpine Convention

In 2004, the Institute for Regional Development of the European Academy of Bolzano developed a study on the elaboration of the Convention perimeter: Convenzione delle Alpi: Definizione del perimetro della Convenzione delle Alpi a livello comunale.

Since the Alpine Convention left space for the countries to decide with a declaration which parts of their territory they had intended to be subject to the Convention itself, and since no common guidelines had been adopted in the framework of the treaty, each state party adopted a different approach. The result is that different administrative units have been used for the delimitation of the geographical scope of application of the Convention from country to country.

The scientific study carried out by the European Academy aimed at the reconstruction of the geographical common perimeter for the delimitation of the scope of application of the Convention. Therefore a complex map of all the administrative units of the states parties could be drawn.

"1. Any State or the European Community may, at the time of signature or when depositing its instrument of ratification, acceptance, approval or accession, specify the territory or territories to which the Convention shall apply.

2. Any Party may, at any later date, by declaration addressed to the Secretary General of the Council of Europe, extend the application of this Convention to any other territory specified in the declaration. The Convention shall take effect in respect of such a territory on the first day following the expiry of a period of three months after the date of receipt of the declaration by the Secretary General."

The **Alpine Convention** contains a similar provision for the delimitation of the geographical scope of application of the Convention itself. Article 1 states:

"1. The Convention shall cover the Alpine region, as described and depicted in the Annex.

2. Each Contracting Party may, when depositing its instrument of ratification, acceptance or approval or at any time thereafter, extend the application of this Convention to additional parts of its national territory by making a declaration to the depositary, the Republic of Austria, provided that this is necessary to implement the provisions of the Convention.

3. Any declaration made under paragraph 2 may, in respect of any national territory specified in such declaration, be withdrawn by a notification addressed to the depositary. The withdrawal shall become effective on the first day of the month following the expiration of a period of six months after the date of receipt of such notification by the depositary."

The first difference with the Carpathian Convention is represented by the fact that the Alpine Region had already been defined by the contracting parties during the drafting of the Convention, and the administrative units that are included in the geographical scope of application are listed in the Annex to the Convention.

Another difference relates to the possibility of withdrawal. The Alpine Convention gives to state parties the possibility to withdraw their declarations regarding the parts of their territory that have been added and indicated as subject to the Convention. No similar chance has been given to Carpathian countries by article 1 of the Carpathian Convention. This apparent gap could be filled through other mechanisms, such as agreement by the COP, or could be an issue that will be raised later. It will be up to the states to give themselves such a possibility. Under international law, such a possibility to withdraw a declaration is not generally forbidden as long as it is not otherwise proscribed by the parties.

Chapter B
Article 2

Article 2 – **General objectives and principles**

1. The Parties shall pursue a comprehensive policy and cooperate for the protection and sustainable development of the Carpathians with a view to *inter alia* improving quality of life, strengthening local economies and communities, and conservation of natural values and cultural heritage.

2. In order to achieve the objectives referred to in paragraph 1, the Parties shall take appropriate measures, in the areas covered by Articles 4 to 13 of this Convention by promoting:
(a) the precaution and prevention principles,
(b) the 'polluter pays' principle,
(c) public participation stakeholder involvement,
(d) transboundary cooperation,
(e) integrated planning and management of land and water resources,
(f) a programmatic approach, and
(g) the ecosystem approach.

3. To achieve the objectives set forth in this Convention and to ensure its implementation, the Parties may, as appropriate, develop and adopt Protocols.

This article sets the overarching goals and values of the Convention, already announced in the preamble, and the fundamental general principles that should be observed by the parties while implementing the Convention.

This article is the key interpretation provision of the Convention since it sets the guiding principles for all the implementing measures of the Convention. Articles 3 to 14 must therefore always be analysed from the perspective of article 2. This article should be guiding not only for the parties when undertaking measures for implementation, but also by the Convention bodies, the Conference of the Parties, the Secretariat and any subsidiary bodies.

1. The Parties shall pursue a comprehensive policy and cooperate for the protection and sustainable development of the Carpathians with a view to *inter alia* improving quality of life, strengthening local economies and communities, and conservation of natural values and cultural heritage.

This paragraph defines the overarching goal of the Convention, namely "the protection and sustainable development of the Carpathians." These rather general considerations are given further definition by relating them to the more concrete considerations of improving the quality of life, strengthening local economies and communities, and conservation of natural values and cultural heritage. The mechanism for achieving these objectives is for states to develop comprehensive policies and to cooperate with each other.

Main concepts

This paragraph refers to a series of basic concepts and principles of environmental and sustainable development law.

International cooperation is a basic principle of international law. Global environmental issues to be addressed require joint coordinated efforts of the global community. This fundamental principle is encompassed in most environmental legal instruments and treaties.

The general need to cooperate to conserve the environment was proclaimed in 1972 during the Stockholm Conference on the Human Environment convened by the UN General Assembly. The Stockholm Conference is seen as the first decisive step towards the development of comprehensive international environmental law, and resulted in the Declaration on the

Human Environment (the Stockholm Declaration) and an Action Plan for the Human Environment. Principle 24 of the Stockholm Declaration[14] requires that international matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries. The principle has been further strengthened during the World Conference on Environment and Development, held in Rio de Janeiro in 1992, through the Rio Declaration on Environment and Development.[15] Principle 27 of the Rio Declaration states that cooperation shall be conducted in good faith and shall include further development of international law in the field of sustainable development.

This principle encompasses the obligations of states to cooperate through adoption of bilateral or multilateral environmental agreements and implementation of joint measures, actions, etc.

The **Sustainable development** concept emerged on the international agenda following the publication of the *Report of the World Commission on Environment and Development: Our Common Future*, known as the Brundtland Report, in 1987, which defined the term as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[16] The report was debated by the UN General Assembly in 1989 and the resolution accepting the report convened the Rio Conference. Since then, various definitions of sustainable development have been introduced, but they all have as a core element the balance between economic development, social development/protection, and environmental protection.

The guiding documents for explaining the sustainable development concept are the Rio Declaration on Environment and Development, which sets forth 27 principles of sustainable development, and Agenda 21,[17] a comprehensive programme of action implemented "by Governments, development agencies, United Nations organisations and independent sector groups in every area where human (economic) activity affects the environment." Principle 4 of the Rio Declaration affirms that in order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

Improving quality of life and **strengthening local economies** and communities are general objectives that should be pursued by all states within their jurisdiction. The Carpathian Convention draws attention to these issues as important components of sustainability for communities living in mountain areas. Statistics show that 80 percent of the people living in mountain areas live below the poverty line.[18] Harsher natural conditions making subsistence on agriculture difficult and a low level of infrastructure development in mountain regions lead to a poor economic situation.

Conservation of natural values and cultural heritage refers to concepts described in detail in article 4 and article 11 of the Carpathian Convention. Detailed analyses of these articles are presented under Chapters I.D and I.J of the Handbook.

The objective of achieving protection and sustainable development of the Carpathians can only be met through cooperation and simultaneous action in all areas covered by the Convention.

2. In order to achieve the objectives referred to in paragraph 1, the Parties shall take appropriate measures, in the areas covered by Articles 4 to 13 of this Convention by promoting:

This paragraph sets forth a set of principles that are to be applied in the implementation of the operative provisions of the Convention, in the interests of achieving the Convention's objectives. Beyond mere application, however, the Convention calls for them to be actively promoted. The principles listed under letters (a) to (g) of this paragraph are general principles of international environmental law,[19] although in at least one case (the precautionary principle) there is disagreement as to whether the concept should be described as a principle or an approach.

Article 3 on an integrated approach to land resources management is not mentioned in article 2.2. At first glance the reason is not entirely clear. Some have expressed the view that article 3 is a provision of a general nature, complementing article 2 by setting forth a specific set of measures for the implementation of the operative provisions of the Convention, i.e., integrated management plans. This is supported by the text in article 3, which states that land resources management mechanisms are required to be used for "the areas of the Convention." This can be taken to mean that article 3 applies where relevant to articles 4 to 13. But such a reading does not exclude the possibility that article 3 is in fact a substantive operative provision of the Convention, similar to the other referenced articles. It places specific obligations on the parties relative to the subject matter of the Convention by laying down requirements for integrated land resource management, using tools such as integrated management planning. Even if article 3 has a "general" nature through its applicability to other operative provisions, this fact alone does not justify its exclusion from the scope of article 2.

While some might argue that the principles contained in article 2 will in any case be applied to all the substantive areas where land resources management is applied (i.e. the matters covered in articles 4 through 13), this argument is not wholly satisfactory. The need

to take several logical steps, where it would have been a simple matter for the drafters to mention article 3 specifically, would give ammunition to those who might seek to limit application of the article 2 principles. Furthermore, there may be matters that relate to protection of the Carpathian Mountains where land resources management is relevant, and that do not fall squarely within articles 4 through 13, but rather fall under the penumbra of the Convention. If one accepts this as a possibility, there is a clear legal gap in the Convention that could be the subject of further development.

(a) the precaution and prevention principles

The precaution principle emerged in the area of international environmental law alongside the concept of sustainable development, being "potentially, the most radical of environmental principles,"[20] as it has the farthest implications for the states. This principle: "dictates that in the face of environmental hazards, and at a minimum in those cases where serious or irreversible harm is feared, preventive and abatement action must be taken where uncertainty of whatever nature remains."[21]

Principle 15 of the Rio Declaration prescribes that: "in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." The precaution principle is endorsed by various multilateral agreements such as the Cartagena Protocol on Biological Safety to the Convention on Biological Diversity. The protocol states that a country may reject the import of living modified organisms even in the absence of scientific certainty that it will potentially cause harm. Measures to put into practice this principle may take different forms: from unconditional moratorium (e.g. prohibition of potentially harmful activities in strictly protected areas) to requirements of particular attention and prior informed consent (e.g. for transboundary movement of GMOs or hazardous chemicals and pesticides). It essentially involves the development of policies on the basis of sophisticated risk assessment and management.

Its implementation is not without controversy, however, as it may pose constitutional problems based on the protection of property rights. On such a basis, certain countries, notably grain exporters including the United States, Australia, Chile and others that use genetically modified crops, have contested the development of precaution as a principle on the international level, whereas it is strongly promoted by the European Union. The principle of precaution is one of the bases of the European Union's environmental policy according to the 1992 Maastricht Treaty, but the treaty does not define the term.

The prevention principle requires that necessary measures are taken to prevent any damage which is certain to occur, likely to occur or capable of occurring. The primary obligation that flows from the principle of prevention is prior assessment of potentially harmful activities.[22] It is more cost efficient to prevent damage than to undertake the burdensome and expensive repair of damage already done. Additionally much environmental damage is impossible to remedy (e.g. extinction of species). Preventive mechanisms under existing international agreements include, as a minimum: monitoring, notification and exchange of information. The concept of integrated pollution prevention (developed in the IPPC directive 96/61/EC) requires that the environment is considered as a whole, and consequently any harm to its components is avoided.

Basic tools to put into practice the prevention principle are environmental impact assessment, early warning systems, risk assessment, monitoring, and others. Even though the Rio Declaration does not refer directly to the prevention principle, it provides that states should conduct environmental impact assessment for activities likely to have a significant adverse effect on the environment, exercise due diligence, notify other states about any natural disasters or other emergencies likely to produce harmful effects, and notify and provide information on projects likely to have a transboundary environmental effect. The prevention principle is laid down in article 174 of the EC Treaty.

(b) the 'polluter pays' principle,

The polluter pays principle is stated as follows in Principle 16 of the Rio Declaration: "National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."

The principle requires that costs occurring as a result of pollution should be borne by the polluter. "Polluter," as defined by the EU Directive 2004/35/EC, is an operator causing environmental damage or creating an imminent threat of such damage,[23] but in a broader sense the principle may be applied to consumers as well as producers. In the case of multiple pollution sources or diffuse pollution, it may be hard to identify individual polluters. Costs that should be covered by the polluter include pollution prevention, control and reduction measures and compensation for damage.

The principle has been included in the Single European Act and the Treaty of Maastricht, and must therefore be implemented by EU member states.

This principle is put into practice through various sets of measures, ranging from taxes and fees for use of natural resources (e.g. water treatment, drinking water) to objective liability for any accident resulting from the handling of hazardous substances, and rules related to insurance coverage and other financial assurance mechanisms to limit the possibility that liability will be shifted to society as a whole.

(c) public participation and stakeholder involvement,

Public participation and **stakeholder involvement** are important principles recognised in Principle 10 of the Rio Declaration, which requires that environmental issues are "best handled with participation of all concerned citizens, at the relevant level." The Rio Declaration further specifies the necessary means to ensure participation. These are access to environmental information, participation in decision-making processes and effective access to judicial and administrative proceedings. This principle has far reaching implications and the guiding light in its interpretation is the Aarhus Convention.[24] The concepts are described in detail in article 13 of the Carpathian Convention. Detailed analysis of this article is presented under Chapter I.L of the Handbook.

(d) transboundary cooperation,

Transboundary cooperation refers to cooperation between two or more neighbouring countries. It can take different forms including agreements, coordinated policies, and implementation of joint measures. It is a prerequisite for any activity aimed at the protection of shared natural resources (e.g. mountain ranges, watercourses) and helps to ensure efficient management of cross-border protected areas. Compared to the basic principle of international law on international cooperation, discussed at the beginning of this section, it is both broader and narrower.

It is narrower in the sense that it refers to specific shared boundaries, and thus to neighbouring countries as opposed to the international community as a whole. But it is also broader in that it includes within its scope different forms of cooperation across borders other than state-to-state cooperation. In its broadest sense it may include not only cooperation between regional or local authorities straddling a border area, but also direct community-to-community interaction. Such forms of cooperation are often the most effective means to achieve results in a particular locality. All specific obligations deriving from articles 4 to 14 must be interpreted in the light of the requirement of transboundary cooperation in this broad sense.

(e) integrated planning and management of land and water resources,

Water and land resources are under significant pressures in mountain areas, in particular as mountains are a major source of drinking water and usable land areas tend to be concentrated. The available resources must be exploited in a sustainable way.

The concept of **integrated approach** is defined in Agenda 21. Chapter 10 of Agenda 21 states that all uses of land resources should be planned and managed in an integrated manner with the objective "to facilitate allocation of land to the uses that provide the greatest sustainable benefits [...]"[25]

Chapter 18 of Agenda 21 provides guidance with regards to integrated water resources management, affirming that this concept is based "on the perception of water as an integral part of the ecosystem, a natural resource and a social and economic good" and that water resources need to be protected: "taking into account the functioning of aquatic ecosystems and the perenniality of the resource, in order to satisfy and reconcile needs for water in human activities. In developing and using water resources, priority has to be given to the satisfaction of basic needs and the safeguarding of ecosystems."

(f) a programmatic approach, and

The **programmatic approach** refers to a proactive style of decision making or policy making that consistently takes into account particular considerations with defined goals or outcomes in mind. When it is used in reference to planning of financial assistance of international organisations, such as GEF, UNDP, etc., this term is understood as an approach to financing which aims: "to secure larger and sustained impact on the global environment through integrating and mainstreaming global environmental objectives into a country's national strategies and plans through partnership with the country."[26]

In other contexts it may refer to a mechanism that streamlines decision making by creating categories for permitted or non-permitted action, for example as a general authorisation that covers a geographic or statewide area and applies to a variety of projects, activities, or locales. A programmatic approach may allow actions to proceed without individual approval by each permit decision-making agency.

In the context of the Convention, this concept could be interpreted as requiring states to establish programmes or policies that take into account the objectives of the Convention, including the interlinkages among environmental factors and the interrelation of the environment with human, cultural and social factors. Such an approach takes into account the organic or functional relations between the environment and its components.

(g) the ecosystem approach.

The ecosystem approach, as interpreted under the Convention on Biological Diversity, is a strategy for the "integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way." The ecosystem approach places human needs at the centre of biodiversity management and aims to manage the ecosystem, based on its multiple functions, without damaging it.

Ecosystem is defined by the Convention on Biological Diversity as a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit. It also recognises that humans, with their cultural diversity, are an integral component of many ecosystems.

The ecosystem approach is based on the application of appropriate scientific methodologies and sound knowledge of essential structures, processes, functions and interactions among organisms and their environment.[27] This approach is explicitly referred to in the chapters of the Handbook discussing articles 4, 5 and 8.

3. To achieve the objectives set forth in this Convention and to ensure its implementation, the Parties may, as appropriate, develop and adopt Protocols.

This provision of the Convention, together with article 18, is the legal basis for the **adoption of protocols to the Convention**. Generally, in international law, framework conventions (like this one) are accompanied by the adoption of protocols where more specific obligations are defined in order to complete and facilitate the implementation of the general principles agreed on by the parties in the Convention itself.

While the parties are not under any obligation to do so, the adoption of protocols is one of the most important means for achieving the overall objectives of the Convention through effective implementation. The procedure for adoption of protocols is regulated in article 18 of the Convention:

1. proposition by a state party;
2. circulation of the draft to all parties through the Secretariat at least six months before the Conference of the Parties designated to discuss it;
3. adoption, signature and then ratification by the parties according to their agreement and their national procedures; and
4. entry into force according to the same procedure by which the Convention entered into force.

By way of example, the **Alpine Convention** has eight thematic protocols covering a wide range of topics: land use planning and sustainable development, nature and landscape protection, agriculture in mountain areas, forestry, soil protection, tourism, energy and transport and dispute settlement. Details on these protocols will be presented throughout the Handbook.

Chapter C
Articles 3 and 5

Article 3 – **Integrated approach to the land resources management**

The Parties shall apply the approach of the integrated land resources management as defined in Chapter 10 of the Agenda 21, by developing and implementing appropriate tools, such as integrated management plans, relating to the areas of this Convention.

Article 5 – **Spatial planning**

1. The Parties shall pursue policies of spatial planning aimed at the protection and sustainable development of the Carpathians, which shall take into account the specific ecological and socio-economic conditions in the Carpathians and their mountain ecosystems, and provide benefits to the local people.

2. The Parties shall aim at coordinating spatial planning in bordering areas, through developing transboundary and/or regional spatial planning policies and programmes, enhancing and supporting co-operation between relevant regional and local institutions.

3. In developing spatial planning policies and programmes, particular attention should, *inter alia*, be paid to:
(a) transboundary transport, energy and telecommunications infrastructure and services,
(b) conservation and sustainable use of natural resources,
(c) coherent town and country planning in border areas,
(d) preventing the cross-border impact of pollution,
(e) integrated land use planning, and environmental impact assessments.

Land resource management and spatial planning

Pressure on land, especially in urbanised societies, is increasing. It is widely recognised that land use and land degradation lead to multiple undesirable social, economic and environmental impacts. Examples of these are the consequences of floods following deforestation, drainage of wetlands and the loss of biodiversity following the fragmentation of ecological habitats by urbanisation and transport infrastructure. Spatial planning and land-use management can be a solution, by reducing spatial conflicts and enhancing sustainable development.

The relationships between environmental policies, spatial planning and land management are very strong, since:

- Land is a finite, non-renewable resource and its conservation is a key objective of environmental policies.
- The use of land influences the quality of the other environmental resources: water, nature and air.
- Spatial planning policies determine the uses of land and can be a powerful tool towards sustainable development.[28]

Article 3 of the Carpathian Convention requiring an integrated approach to land resources management and article 5 on spatial planning are therefore linked and shall be discussed together.

ARTICLE 3
The Parties shall apply the approach of the integrated land resources management as defined in Chapter 10 of the Agenda 21, by developing and implementing appropriate tools, such as integrated management plans, relating to the areas of this Convention.

As this provision makes a direct reference to **Agenda 21**, Chapter 10 on Integrated Approach to the Planning and Management of Land Resources, that text bears further examination.

According to Chapter 10 of Agenda 21, **land** is normally defined as a physical entity in terms of its topography and spatial nature. A broader integrative view also includes the **natural resources** — the soils, minerals, water and biota — that the land features.[29] More precisely, "land" means the terrestrial bio-productive system that comprises soil, vegetation, and other biota, and the ecological and hydrological processes that operate within the system.[30]

The basic functions of land in supporting human and other terrestrial ecosystems vary:

- a store of wealth for individuals, groups, or a community;
- production of food, fibre, fuel or other biotic materials for human use;
- provision of biological habitats for plants, animals and micro-organisms;
- co-determinant in the global energy balance and the global hydrological cycle, which provides both a source and a sink for greenhouse gases;
- regulation of the storage and flow of surface water and groundwater;
- storehouse of minerals and raw materials for human use;
- a buffer, filter or modifier of chemical pollutants;
- provision of physical space for settlements, industry and recreation;
- storage and protection of evidence from the historical or pre-historical record (fossils, evidence of past climates, archaeological remains, etc.); and
- enabling or hampering movement of animals, plants and people between one area and another.[31]

Article 3 of the Carpathian Convention calls for an **integrated approach for management of land**, which is already required in the 2nd paragraph of article 2 of the Convention.[32] Agenda 21 identifies the need for an integrated approach for the best use and sustainable management of land and proposes a number of policy and strategy measures.[33] This approach is described as follows: Integration should take place at two levels, considering, on the one hand, all environmental, social and economic factors (including, for example, impacts of the various economic and social sectors on the environment and natural resources) and, on the other, all environmental and resource components together (i.e. air, water, biota, land, geological and natural resources).

Put another way, the environment should be taken into account as a whole, and policies and measures adopted should ensure that all factors that are significant in relation to land resources development and environmental conservation are addressed.

BOX 2

Landscape ecological plan in the system of spatial planning in Slovakia

The Regulation of the Ministry of Environment No. 55/2001 on landscape planning survey and documentation defines principles used in the preparation of landscape planning documentation. According to this regulation, the landscape-ecological plan is an obligatory part of spatial planning documentation on each level: "The landscape-ecological plan proposes, on the basis of analysis of natural conditions of the territory, the most suitable form of utilization, ensuring regardful use of nature, natural resources, maintenance of biodiversity and support of ecological stability of the landscape."

The elaboration of the landscape-ecological plan is a complex process of mutual harmonisation of spatial requirements and other human activities with landscape-ecological conditions.

A landscape-ecological plan was developed for the town of Povazska Bystrica in 2002. This plan, divided into three parts (analyses, syntheses and proposals), sets the framework for the regulation of existing and proposed activities and suggested specific proposals for improvement of environment and landscape quality.

Source: www.nbu.ac.uk/bioforum/SP%20Case%20study%204.pdf

Indeed, sectoral approaches for the use of land and land resources have frequently not been effective since one measure can be undermined by the application of another policy in another sector. In addition, the sectoral approach is often counterproductive because the measures and policies are not interrelated and interlinked concerning their objectives and the means of implementation, compounded by poor management strategies, failure to identify stakeholders and involve them in the planning and management process, and weak institutional structures.[34]

The execution of the integrated approach, as described in Agenda 21, depends on the strengthening of implementing institutions and on ensuring the active involvement and participation of stakeholders in the decision-making process, as well as on policies that support planning for the use and sustainable management of land resources.

The World Summit on Sustainable Development held in Johannesburg in 2002 agreed that it is necessary to implement strategies that include targets adopted at the national and, where appropriate, regional levels to protect ecosystems and achieve integrated management of land, water and living resources.[35] Along the same lines, the Carpathian Convention calls for the development of appropriate tools for land resources management and suggests the design of **integrated management** plans.

Land management plans are used to translate broad strategies into operational and long-term activities. The integrated management planning process involves six inter-related stages:[36]

- defining and assessing a management area;
- engaging affected interests;
- developing an integrated management plan;
- endorsement of a plan by decision-making authorities;
- implementing the plan; and
- monitoring and evaluating outcomes.

Integrated management plans and strategies are meant to identify how the land and resources will be used. They lead to a balance of land resources between uses of land resources and demands of land users, and help to ensure the protection of the environment and the fulfilment of developmental needs. This implies that all possible land-use options must be considered for a given area of land during the planning process.

These plans should be developed through a democratic and transparent process, including public, stakeholder and government participation. Other tools for land resources management can be used to comply with the obligations of article 3 of the Carpathian Convention. For example, Chapter 10 of Agenda 21 recommends the adoption of **landscape ecological planning** (LANDEP) to facilitate the integration of environmental components such as air, water, land and other natural resources.[37] LANDEP plans are used to assure the conservation of valuable habitats in defined areas focusing on nature management activities in the sites (see box 2).

Furthermore, management **indicators** can be useful for the assessment and monitoring of land-use and land resources processes. Indeed, quality, value and functions of lands can evolve, as well as the benefits society gains from land.

Some indicators have been defined in the framework of chapter 10 of Agenda 21:

- "Land use change" highlights changes in the productive or protective uses of the land resources to facilitate sustainable land use planning and policy development.
- "Changes in land conditions" measures changes in the productive capacity, the environmental quality, and the sustainability of the national land resource.
- "Decentralized local-level natural resource management" represents the extent to which resource management is in the hands of landholders or other de facto local resource controllers; and partially represents whether local resource controllers and others with direct impact on resources have incentives to conserve them.

The World Bank, in collaboration with UNEP, UNDP, FAO and the Consultative Group on International Agricultural Research (CGIAR), has developed a Land Quality Indicators programme which seeks to develop a set of national and regional integrated indicators for national decision makers, taking into account spatial differences and national disparities. They are intended to monitor the effects of agricultural policies, the level of development of institutional capacities, the durability of land management, and other factors. At the regional level, the objective is to measure the performance and the impact of agricultural projects.[38]

Main relevant international agreements, legal instruments and initiatives

Apart from Agenda 21, other international instruments deal with the integrated management of land, focusing on specific elements. The **Convention on Wetlands of International Importance Especially as Waterfowl Habitat,**[39] signed in Ramsar in 1971, stresses that: the Contracting Parties shall formulate and implement their planning so as to promote the conservation of

the wetlands included in the list, and as far as possible the wise use of wetlands in their territory.

The **Convention on Biological Diversity,**[40] adopted in 1992, requires in its article 6 that parties 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. Although this provision does not refer directly to land management plans, the conservation and sustainable use of biological diversity is closely linked to land-use management, since land resources encompass biota (plants, animals).

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive)[41] states that the EU member states should encourage the management of features of the landscape which are of major importance for wild fauna and flora in their land-use planning and development policies, with a view to improve the ecological coherence of the Natura 2000 network.[42]

Responsibilities of local authorities

The main responsibility of local authorities is to ensure that activities are integrated and coordinated with each other, and that all economic, social and environmental factors are considered during land resource management. Chapter 10 of Agenda 21 lists management activities for governments that can be applied at the local level:

- developing supportive policies and policy instruments at the appropriate level;
- strengthening planning and management systems;
- promoting application of appropriate tools for planning and management;
- raising awareness;
- promoting public participation; and
- strengthening information systems.

The local authorities should monitor and assess integrated management plans. Agenda 21 also calls for the establishment of transboundary cooperation and the exchange of information on land resources. This can be achieved through designing regional policies to support programmes for land-use and physical planning, the development of transboundary land-use and physical plans, and the establishment of network and information systems to ensure a participatory process.

ARTICLE 5

1. The Parties shall pursue policies of spatial planning aimed at the protection and sustainable development of the Carpathians, which shall take into account the specific ecological and socio-economic conditions in the Carpathians and their mountain ecosystems, and provide benefits to the local people.

The first paragraph of article 5 requires parties to develop sustainable spatial planning policies that strike a balance between the socio-economic needs of inhabitants and the protection of the environment in the Carpathian Mountains.

Main concepts

A definition of **spatial planning** is offered in the *EU Compendium of European Spatial Planning Systems:* "Spatial planning refers to the methods used largely by the public sector to influence the future distribution of activities in space. It is undertaken with the aim of producing a more rational organisation of activities in space, including the linkages between them, to balance demands for development with the need to protect the environment, and to achieve social and economic objectives. Spatial planning embraces measures to co-ordinate the spatial impacts of other sector policies, to achieve a more even distribution of economic development between regions than would otherwise be created by market forces, and to regulate the conversion of land and property uses."[43]

Spatial planning can be understood as the action to influence spatial structure by managing territorial development and coordinating the spatial impacts of sectoral policies. The general purpose of spatial planning is to give geographical expression of policies, to create conditions for dynamic economic development, and to balance development with environmental protection.

All human activities have a spatial dimension; therefore spatial planning can be used as an instrument to coordinate socio-economic development and influence the distribution of people and activities. It also leads to the careful management of natural and cultural resources as well as an efficient urban settlement system and infrastructure network.

Consequently, spatial processes are relevant to sustainable development, as spatial planning must achieve an equal balance between spatial conditions and economic use of land, the protection of natural resources, and social cohesion.

Spatial planning is essential for the preservation and development of mountain regions. Considering conditions in these regions (altitude, topography, climate), the mountainous environment represents not only a constraint, but equally an opportunity for the population living there,[44] and these positive aspects can be reinforced through spatial planning instruments. For example, the use of spatial plans may lead to a more rational territorial organisation of land, encourage the implementation of an ecosystem approach, and provide new methods to visualise the spatial distribution of biodiversity.

In the Carpathians, an integrated policy could include measures towards the economic and social management of natural resources and respect for local tradition and culture while adapting continuously to conditions and constraints.

Main relevant international agreements, legal instruments and initiatives

The European Landscape Convention's[45] main aims are to promote landscape protection, management and planning, and to organise European cooperation on landscape issues. The public is also encouraged to take an active part in landscape management and planning, and to undertake responsibility over the landscape.

The **Alpine Convention** prescribes to the parties the obligation to take all appropriate measures in regards to regional planning, with the objective of ensuring the economic and rational use of land and a sound, harmonious development of the entire region. Particular emphasis is placed on natural hazards, the avoidance of under- and over-use, and the conservation or rehabilitation of natural habitats. The mechanism is a thorough clarification and evaluation of land use requirements, advanced integrated planning, and coordination of the measures taken.

In 1994 an additional **Protocol on Spatial Planning and Sustainable Development** was adopted by some of the Alpine countries. This protocol prescribes three levels of commitments for the parties:

- adoption of general strategies, plans and projects for sustainable development of the territory — these plans are to be adopted by the local authorities, or at least in collaboration with them, and in cooperation with the transboundary local authorities;
- adoption of technical measures for rural and urban areas, for the conservation and protection of natural habitats, and for the transport field; and

BOX 3

Sustainable spatial development action plan in Switzerland

The Swiss Federal Office for Spatial Development (ARE) worked on an action plan aimed at sustainable spatial development. The action plan was drawn from the Swiss Federal Council's Sustainable Development Strategy 2002, in which 10 areas of action and a total of 22 measures to be taken are determined. Measure 13 covers a programme for sustainable spatial planning aiming at improving the implementation of spatial planning in Switzerland, and integrating all three sustainability dimensions. By focusing on the principle of inward settlement development it will help to bring about economic benefits in the form of infrastructure cost-saving urban growth, social benefits in the form of higher-quality residential areas, and environmental benefits in the form of economical land use.

The Federal Council's objectives for the programme are notably to:

- lay down a specific framework for inward settlement renewal and development under the principle for spatial planning in Switzerland;
- concentrate the Confederation's strategies and plans more effectively on sustainable development and work towards the closer alignment of construction plans;
- make better use of cantonal structural plans and take greater account of sustainability criteria;
- review the system of usage planning and develop criteria for sustainable settlement development;
- lend impetus to greater cross-border (inter-cantonal and supra-communal) cooperation in spatial planning;
- strengthen cooperation between social planning and residential construction promotion programmes, the residential sector and the construction sector in general; and
- formulate a monitoring system (review of objectives, impacts and implementation) for spatial planning policy.

Source: http://www.are.admin.ch/are/en/raum/nachhaltig/index.html

- establishment of monitoring and controlling activities in order to study periodically the environmental impact of transport, and the results of the implementation of the protocol and its eventual need for amendments.

Although the subsidiarity principle, according to EU law, assigns land and urban planning responsibilities to national and regional levels, most **European policies** have a direct or indirect effect on spatial development. Successive treaties (the Single European Act, and the Maastricht and Amsterdam Treaties) have led to territorially significant sectoral policies of the EU having a strong influence on the elaboration and implementation of national and regional spatial development policies and thus on spatial development.[46]

Furthermore, several initiatives exist on the issue of spatial planning at a regional level. The **European Regional/Spatial Planning Charter** (Torremolinos Charter), adopted in 1983 by the European Conference of Ministers responsible for Regional Planning (CEMAT),[47] was the first intergovernmental initiative towards balanced socio-economic development of the regions within Europe, improvement of the quality of life, responsible management of natural resources and protection of the environment, and rational land use. It called for international cooperation to achieve "real European planning," specifying that regional/spatial planning contributes to a better spatial organisation in Europe, and that it should be democratic, comprehensive, functional and oriented towards the longer term.

On the basis of the Torremolinos Charter, the **Guiding Principles for Sustainable Spatial Development of the European Continent** were adopted in 2000 in the frame of the 12th session of the European Conference of Ministers responsible for Regional Planning (CEMAT). These principles give a broad vision of the concept of sustainable spatial development:

- promoting territorial cohesion through a more balanced social economic development of regions and improved competitiveness;
- encouraging development generated by urban functions and improving the relationship between town and countryside;
- promoting more balanced accessibility;
- developing access to information and knowledge;
- reducing environmental damage;
- enhancing and protecting natural resources and the natural heritage;
- enhancing the cultural heritage as a factor for development;
- developing energy resources while maintaining safety;
- encouraging high quality, sustainable tourism; and
- limiting the impacts of natural disasters.[48]

Responsibilities of local authorities

To achieve the Convention's objectives, the involvement of authorities and local people in designing and implementing spatial plans is a vital element. In some countries the local authorities will have primary responsibilty for the development of spatial plans at a particular level. In any case they have a strong role to play in the development of spatial plans that cover mountain areas.

BOX 4

Alpine Space Programme

The Alpine Space Programme is an Interreg III B project. Its main objectives are:

- To establish the Alpine Space as a powerful area in the European network of development areas. This requires a common understanding of the role of Alpine Space in terms of sustainable spatial development and to actively promote this by carrying out various activities and measures.
- To initialise and support sustainable development initiatives within the Alpine Space under consideration of the relationship between the alpine core region and the fringes of the Alps. This would cover transnational activities in various sectors from Community to municipal level by focusing on the most important issues of Alpine development.

Source: www.alpinespace.org

This can include ensuring that local knowledge is taken into account as well as ensuring the involvement of relevant stakeholders in the process.

The establishment of relevant maps is the first step in the identification of natural values and risks of the territories. It also allows the overview of the situation of the region and the associated stakes. Areas ranging from leisure areas, to industrial areas to flood areas need to be taken into account while developing spatial plans to ensure coherent sustainable develoment of the territory.

The assessment of spatial plans, policies and strategies should also be undertaken in order to ensure the protection of the Carpathian Mountains and the spatial development of the region.

ARTICLE 5

2. The Parties shall aim at coordinating spatial planning in bordering areas, through developing transboundary and/or regional spatial planning policies and programmes, enhancing and supporting co-operation between relevant regional and local institutions.

Paragraph 2 underlines the importance of cross-border cooperation between institutions at different geographical levels in pursuing coordinated spatial planning policies.

BOX 5

Alpe-Adria Initiative

In 1978, the Alpe-Adria Working Community was founded in Venice as a working community of Italian regions, Austrian landers and the then Yugoslav republics. Today it unites 17 regions from seven states: four Italian regions (Friuli Venezia Giulia, Lombardia, Trentino Alto Adige and Veneto), Austrian landers (Ober-Osterreich, Burgerland, Carinthia and Steiermark), the German free state of Bavaria, the Republic of Croatia, the Republic of Slovenia, five Hungarian counties (Gyor Moson Sopron, Vas, Zala, Somogy and Baranya), and the Swiss canton Ticino. The member countries were joined by their desire to strengthen peace and cooperation among nations connected by history and tradition, and the desire for enhanced economic and political integration.

Since its inception, the Working Community has ascribed special significance to the field of spatial planning and management. The 1st Commission for Spatial Planning and Management and Environmental Protection performed activities in the field of spatial planning and management, as well as conservation of natural and cultural resources. The activities of the first period were intended for acquiring knowledge about the status quo in the area characterized by great structural differences. In the 1990s, the work was redirected to searching for common goals and developing guidelines for their enforcement.

The priority goal, set in the programme of activities for the period 2001-2005, was cooperation on the implementation of the Guiding Principles for Sustainable Spatial Development of the European Continent (Council of Europe), and the European Spatial Development Perspectives (EU).

These activities were targeted at:

- ensuring access to information and exchange of experience among the representatives of services responsible for spatial planning and management in member countries;
- the assertion and improved recognisability of the area in Europe;
- eliminating discrepancies in the existing spatial planning documents, providing timely information and reconciling the foreseen solutions which have cross-border significance;
- creating common visions, guidelines, and measures for ensuring sustainable spatial development;
- providing information about important national, transnational, and cross-border projects;
- preparing proposals of contents for joint projects; and
- promoting integrated planning.

The activities are performed in the form of annual thematic meetings, attended by participants from services responsible for spatial planning and management in the Alpe-Adria Working Community member countries (approximately 70). The representatives of the Council of Europe and European Union are also invited to these meetings.

Source: www.coe.int/t/e/cultural_co-operation/environment/cemat/paneuropean_co-operation/AlpeAdria.asp#TopOfPage

Main concepts

As mentioned earlier, transboundary cooperation is a core objective of the Carpathian Convention.[49] In paragraph 2, the Convention specifies one of the main mechanisms for this cooperation by obliging governments to develop a joint approach towards, and to cooperate on, coherent cross-border planning.

Carpathian countries have obliged themselves to develop **transboundary and/or regional spatial planning policies and programmes**. This requirement of the Convention is one instance of the application of the general principle in article 2 of applying a programmatic approach, and can help ensure cohesion across borders.

A large number of actors, both private and public, participate and interact in spatial planning processes, including authorities, scientists, professionals and local residents. Cooperation between stakeholders can be improved through exchange of experiences and practices, and can take the form of networks or committees.

Transnational cooperation on spatial planning and development is a strategic approach to foster integration, competitiveness and sustainability in the Carpathian region.

Main relevant international agreements, legal instruments and initiatives

The need for cooperation in the field of spatial development has been emphasised by the **Guiding Principles for Sustainable Spatial Development of the European Continent**, which encourage the strengthening of European-wide cooperation and the participation of the regions, municipalities and citizens.[50] The initiatives below established networks to enhance cooperation between European countries.

The Sub-committee for Spatial and Urban Development, jointly run by the European Commission and EU member states, is working on projects, such as the **European Spatial Planning Observation Network** (ESPON) to support policy development and to build a European scientific community in the field of territorial development.

The ESPON 2006 Programme has been established to create a network of researchers who can provide new knowledge to inform understanding of the spatial dimension of the Structural Funds, Cohesion Policy and other Community and national government policies. The programme will undertake a series of spatial planning research up to 2007.[51]

In order to help countries of Central and South Eastern Europe face the transition from centrally planned to market economies, and to implement the measures necessary for EU accession, two projects were initiated: **Vision Planet** and **ESTIA**. Both aimed at a better mutual understanding of spatial development processes, instruments and institutions in that part of Europe. In the framework of both projects, networks of spatial planners and responsible government officials were established in order to facilitate a structured dialogue on these issues.[52]

Responsibilities of local authorities

Transboundary cooperation is encouraged by the European Commission in the publication *Europe 2000+: Co-operation for the Spatial Development of Europe*.[53]

In this framework, local authorities should:

- establish dialogue and regular cooperation to ensure mutual understanding and knowledge of planning practices within their social, cultural, environmental and economic contexts in the region;
- familiarise themselves with relevant administrative systems and organisation of spatial planning in the neighbouring countries to ensure fruitful cooperation;
- amend relevant policies to make spatial planning practices compatible throughout the region;
- initiate coordinated development of regional policies and programmes;
- make sure that the national and local policies and programmes are consistent with the regional ones; and
- establish links between research institutes and planners for joint cross-border spatial planning.

ARTICLE 5

3. In developing spatial planning policies and programmes, particular attention should, *inter alia*, be paid to:
(a) transboundary transport, energy and telecommunications infrastructure and services,
(b) conservation and sustainable use of natural resources,
(c) coherent town and country planning in border areas,
(d) preventing the cross-border impact of pollution,
(e) integrated land use planning, and environmental impact assessments.

Paragraph 3 stresses the main areas of concern and of particular attention to be devoted to the development of spatial planning policies and programmes.

Main concepts

Due to its interdisciplinary approach, spatial development is linked to several sectoral policies listed in the convention.

Transboundary transport, energy and telecommunications infrastructure and services

The construction of infrastructure in the region is of particular importance for an integrated approach to spatial planning as it has a huge impact on the land and its resources. The paragraph requires that cross border plans and projects be developed jointly by the countries that are affected by the works. In this respect the best balance between economic exploitation of the area and environmental and social concerns needs to be reached. It also requires a careful assessment of the long-term needs of projects.

Articles 8 and 10 of the Convention provide more information.[54]

Conservation and sustainable use of natural resources

Certain forms of land use and spatial development can cause degradation that will have negative impacts on ecosystem stability. Furthermore, natural resource management, such as restoration of habitats, requires a spatial strategy. Decision-making processes should therefore take into account the integrated spatial management of natural resources. See article 4 of the Convention for more information.[55]

Coherent town and country planning in border areas

This provision calls for special attention to the coherence of the urban and rural plans in border areas. Transboundary cooperation in coherent spatial planning can lead to towns and countryside that are developed in a more sustainable way (minimising the impact of infrastructure and land-use projects on the environment and maximising the economic and social benefits for the population) and can diminish disparities in the development of neighbouring areas. A higher scale perspective is necessary to allow the development of marginalised areas, to restructure spatially inefficient settlements, and stimulate economic development opportunities in rural and urban areas.

Preventing the cross-border impact of pollution

A spatial approach is decisive in the prevention of pollution. The siting of industrial activities needs to take into account the dynamics of transboundary pollution. The UNECE Convention on Industrial Accidents provides a good example of measures that may be put in place to prevent transboundary pollution. The delineation of buffer zones is one effective protective measure against pollution. See article 10 of the Convention for more information.[56]

Integrated land use planning, and environmental impact assessment

Strategic environmental assessment (SEA) is used to facilitate decision-making processes for spatial planning. It incorporates both socio-economic and ecological/environmental assessment elements, and can involve:

- habitat mapping;
- risk analysis; and
- sensitivity mapping.

Once spatial planning decisions have been made, environmental impact assessment (EIA) needs to be utilised to assess and mitigate the environmental impact from specific projects or operations. The obligations contained in this article can be met through the use of a variety of tools:

- spatial measures, for example representative networks of protected areas, permanent or temporary no-go areas, and no exploitation areas;
- level controls, for example limits on extraction of a resource or on volume or concentration of a discharge; and
- best practice, including appropriate technological advances.

See articles 3 and 12 of the Convention.[57]

Main relevant international agreements, legal instruments and initiatives

The Protocol of the Alpine Convention on Spatial Planning and Sustainable Development[58] addresses sectoral policies:

- Nature and countryside conservation areas should be established, as well as protection of waterways and other vital resources.
- As for transport, better regional and inter-regional links will be adopted favouring environmentally compatible means of transport, strengthening coordination and links between different transport systems, and promoting traffic limitations improving public transport supply for local residents and tourists and limiting traffic.

- EU member states approved the **European Spatial Development Perspective** (ESDP) in 1999 with the aim to promote polycentric regional structures and sustainable development through spatial planning. It is regarded as: "a suitable policy framework for the sectoral policies of the Community and the Member States that have spatial impacts, as well as for regional and local authorities, aimed as it is at achieving a balanced and sustainable development of the European territory."[59]

Responsibilities of local authorities

The challenge for governments and local authorities is to integrate the different processes and instruments determining land use in spatial plans. This means ensuring that the adoption and especially implementation of policies such as agricultural, forestry and transport policies proceed in a way that they reinforce rather than contradict one another. An integrated approach is thus necessary in the decision-making process, taking into account all policies that can impact other policies.

Linkages with other articles of the Convention

Articles 3 and 5 are closely linked to articles 4, 6, and 7, since biodiversity, landscapes, water, forests and agricultural lands require land resource management.

Since transport and its infrastructure (article 8), as well as industrial activities (article 10), have huge impacts on the land and its resources, they should therefore be given special place in spatial plans.

Leisure areas are usually included in spatial plans and this has an impact on tourism activities (see article 9).

Furthermore, cultural heritage (article 11) has to be taken into account while spatial plans are developed since architectural harmony needs to be ensured and tangible elements (e.g. historical monuments) can require special protection such as buffer zones.

SEA and EIA (article 12) are used to assess the environmental impact of spatial plans and land-resources management measures.

Finally, mechanisms foreseen in article 13 on public participation should be ensured during the elaboration of the plans.

Chapter D
Article 4

Article 4 – **Conservation and sustainable use of biological and landscape diversity**

1. **The Parties shall pursue policies aiming at conservation, sustainable use and restoration of biological and landscape diversity throughout the Carpathians. The Parties shall take appropriate measures to ensure a high level of protection and sustainable use of natural and semi-natural habitats, their continuity and connectivity, and species of flora and fauna being characteristic to the Carpathians, in particular the protection of endangered species, endemic species and large carnivores.**
2. **The Parties shall promote adequate maintenance of semi-natural habitats, the restoration of degraded habitats, and support the development and implementation of relevant management plans.**
3. **The Parties shall pursue policies aiming at the prevention of introduction of alien invasive species and release of genetically modified organisms threatening ecosystems, habitats or species, their control or eradication.**
4. **The Parties shall develop and/or promote compatible monitoring systems, coordinated regional inventories of species and habitats, coordinated scientific research, and their networking.**
5. **The Parties shall cooperate in developing an ecological network in the Carpathians, as a constituent part of the Pan-European Ecological Network, in establishing and supporting a Carpathian Network of Protected Areas, as well as enhance conservation and sustainable management in the areas outside of protected areas.**
6. **The Parties shall take appropriate measures to integrate the objective of conservation and sustainable use of biological and landscape diversity into sectoral policies, such as mountain agriculture, mountain forestry, river basin management, tourism, transport and energy, industry and mining activities.**

Natural resources contribute in many ways to the development of human culture and civilisations. Biological diversity not only provides directly or indirectly goods and services indispensable to human survival, but also plays an essential role in the functioning of ecosystems.

Mountainous areas are exceptionally rich in biodiversity and landscapes, due in part to their remoteness and comparatively limited development. Mountain ecosystems offer a wide range of habitats and great species richness. High-altitude conditions provide vital services for a functioning ecological system.

One of the most valuable assets of the Carpathian Mountains is the natural heritage found there of 133 habitat types and 3,988 plant species.[60] For that reason article 4 of the Carpathian Convention requires the parties to take specific measures regarding the conservation and sustainable use of biological and landscape diversity.

Human actions are fundamentally, and to a significant extent irreversibly, changing the diversity of life on Earth. Through consumption of organic resources and pressures such as land use, pollution (air pollution, water pollution, soil contamination), or climate change driven by human activity, never before has biodiversity been so threatened.

Scientists acknowledge that during the past century humans have increased species extinction at rates hundreds of times higher than background rates that were typical over the course of Earth's history. An estimated 34,000 plant and 5,200 animal species — including one in eight of the world's bird species — face extinction, and 60 percent of the planet's ecosystems are degraded or unsustainably managed.[61] Recognition of the rapidly changing face of the biosphere has triggered several initiatives to conserve and protect biological diversity.

Main relevant international agreements, legal instruments and initiatives

A number of international conventions and agreements that address particular aspects of conservation of biological and landscape diversity, or the sustainable use of biological resources and landscapes have been adopted at global and regional/sub-regional levels. **Six global conventions** focus on biodiversity issues: the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Conservation of Migratory Species (Bonn Convention), the Ramsar Convention on Wetlands (Ramsar Convention), the United Nations Convention to Combat Desertification (UNCCD) and the World Heritage Convention (WHC). They are briefly introduced below, but more details are provided under each paragraph analysis.

1. The **Convention on Biological Diversity**[62] is the first global agreement addressing all aspects of biological diversity. As of 2007, 190 states, including all the Carpathian countries, are parties to this convention. The convention establishes three main goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources.
2. The **Convention on International Trade in Endangered Species of Wild Fauna and Flora** (CITES)[63] aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Through its three appendices, the convention grants varying degrees of protection to more than 30,000 plant and animal species and regulates international trade in those species. To date, 169 states, including all the Carpathian countries, are parties to this convention.
3. The **Convention on the Conservation of Migratory Species of Wild Animals** (CMS, or the Bonn Convention)[64] aims to conserve terrestrial, marine and avian migratory species throughout their range. Parties to the CMS work together to conserve migratory species and their habitats by providing strict protection for the most endangered migratory species, by concluding regional multilateral agreements for the conservation and management of specific species or categories of species, and by undertaking cooperative research and conservation activities. With the exception of Serbia, all of the Carpathian countries have ratified this convention.
4. The **Convention on Wetlands of International Importance Especially as Waterfowl Habitat** (popularly known as the Ramsar convention)[65] provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The convention covers all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. This convention has been ratified by all of the Carpathian countries.
5. The United Nations **convention to Combat Desertification** (UNCCD)[66] recognises that desertification is a major economic, social and environmental problem of concern to many countries in all regions of the world. To combat desertification and mitigate the effects of drought, particularly in Africa, the convention focuses on improving sustainable management of land and water, and preventing the long-term consequences of desertification, including mass migration, species loss, climate change and the need for emergency assistance to populations in crisis.
6. The primary mission of the **World Heritage Convention** (WHC)[67] is to identify and conserve the world's cultural and natural heritage by drawing up a list of sites whose outstanding values should be preserved for all humanity and to ensure their protection through closer cooperation among nations. All Carpathian countries are parties to this convention. The aspects regarding cultural heritage are described in more detail in Chapter I.J of the Handbook. In this section we will focus on the natural heritage component of the convention.

Three regional or sub-regional agreements have biological and landscape diversity, or some of its particular components, as one primary concern:

1. The **Bern Convention**[68] is a binding international legal instrument in the field of nature conservation which covers all natural heritage on the European continent and extends to some States of Africa. Its aims are to conserve wild flora and fauna and their natural habitats and to promote European cooperation in that field.
2. The aims of the **European Landscape Convention**[69] are to promote European landscape protection, management and planning, and to organise European cooperation on landscape issues. The convention establishes the general legal principles which should serve as a basis for adopting national landscape policies and establishing international cooperation in such matters. This is the only legal instrument at the European level dealing with landscape protection.
3. The **Alpine Convention**[70] is a framework agreement for the protection and sustainable develop-

ment of the Alpine region. Moreover, a specific **Protocol on Nature Protection and Landscape Management** has been concluded among the parties in 1994 and entered into force in 2002. It sets specific obligations for the parties: cooperate and inform each other on planning activities concerning the protection of flora and fauna, create and manage together transnational protected areas, create an ecological network of protected areas, prohibit the harvesting and selling of certain protected species and coordinate their research activities.

European Union legislation is an important reference in the field of biodiversity and sustainable use of biological and landscape diversity in Europe:

The EU nature conservation policy is based on two main directives:

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (**Habitats Directive**); and
- Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (**Birds Directive**).

At the heart of both directives is the creation of a European wide ecological network of sites called Natura 2000 and the integration of nature protection requirements into sectoral policies (e.g. agriculture, transport, regional development).

A range of existing **legally non-binding instruments and international initiatives** also offers considerable opportunities for strengthening biological conservation and sustainable development in the region.

- **Agenda 21**

Agenda 21 is a comprehensive plan of action to be taken globally, nationally and locally by organisations of the United Nations system, governments, and major groups in every area in which humans impact the environment. Adopted at the Rio Conference in 1992, its Chapter 15 is dedicated to the conservation of biological diversity. The objectives are to improve the conservation of biological diversity and the sustainable use of biological resources, as well as to support the implementation of the Convention on Biological Diversity.[71]

- **Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity**

The Addis Ababa Principles and Guidelines adopted by the 7th Conference of the Parties to CBD consist of 14 practical principles and operational guidelines and a few instruments for their implementation that govern the uses of components of biodiversity to ensure the sustainability of such uses. The principles provide a framework to assist governments, resource managers, indigenous and local communities, the private sector and other stakeholders on how to ensure that their use of the components of biodiversity will not lead to the long-term decline of biological diversity.[72]

- **2010 Biodiversity Target**

The Conference of the Parties to the CBD in 2002 took a decision by which parties: "commit themselves to a more effective and coherent implementation of the three objectives of the Convention, to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth."

With regards to mountain biodiversity, the 7th Conference of the Parties adopted a programme of work on mountain biological diversity,[73] which also has an overarching goal of significantly reducing the loss of mountain biological diversity by 2010.[74] This target was subsequently endorsed by the World Summit on Sustainable Development and the European Union also committed to halting biodiversity loss by 2010, an objective enshrined in the 6th Environmental Action Programme and adopted in 2002.

Countdown 2010[75] is a network of governments, cities and regions, and civil society organisations hosted by the IUCN Regional Office for Europe. Its goal is that all European governments and members of civil society, at every level, have taken the necessary actions to halt the loss of biodiversity by 2010.

- **The IUCN Red List of Threatened Species**

The World Conservation Union (IUCN), through its Species Survival Commission (SSC), has been assessing the conservation status of species, subspecies, and varieties for more than four decades, and even selected subpopulations on a global scale in order to highlight taxa threatened with extinction, and therefore promote their conservation. This assessment represents the basis for the Red List, which is designed to determine the relative risk of extinction. Its main purpose is to catalogue and highlight those taxa that are facing a higher risk of global extinction (i.e. those listed as critically endangered, endangered and vulnerable). The IUCN Red List also includes information on taxa that are categorised as extinct or extinct in the wild, on taxa that cannot be evaluated because of insufficient information (i.e. are data deficient) and on taxa that are either close to meeting the threatened thresholds or that would be threatened were it not for an ongoing taxon-specific conservation programme (i.e. are near threatened).[76]

- **The Pan-European Biological and Landscape Diversity Strategy**

The Pan-European Biological and Landscape Diversity Strategy was set up by the Council of Europe, in cooperation with other national and international organisations, both governmental and non-governmental, following the Rio Earth Summit and the adoption of

the United Nations Convention on Biological Diversity. The principal aim of the strategy is to find a consistent response to the decline of biological and landscape diversity in Europe and to ensure the sustainability of the natural environment.[77]

- **The EU Thematic Strategy on the Sustainable Use of Natural Resources**

In 2005 the European Commission proposed the Strategy on the Sustainable Use of Natural Resources used in Europe. The objective of the strategy is to reduce the environmental impacts associated with resource use. The strategy takes a horizon of 25 years and focuses on improving the understanding of resource use, its environmental impacts and its links to economic growth, developing indicators and tools to monitor and report progress, and establishing a European Data Centre on natural resources and an International Panel on the sustainable use of natural resources.

These instruments all contribute to conservation and sustainable use of the natural heritage through standard-setting activities, policy development projects, creation of technical networks, field action, research and analysis, local development, capacity building and awareness raising.

1. The Parties shall pursue policies aiming at conservation, sustainable use and restoration of biological and landscape diversity throughout the Carpathians. The Parties shall take appropriate measures to ensure a high level of protection and sustainable use of natural and semi-natural habitats, their continuity and connectivity, and species of flora and fauna being characteristic to the Carpathians, in particular the protection of endangered species, endemic species and large carnivores.

The first paragraph defines general obligations of the parties, placing emphasis on the specificity of the Carpathian region: to pursue relevant policies and take measures for the protection of the biodiversity components in the region.

Main concepts

The first part of this paragraph requires parties to pursue specific policies aimed at "conservation, sustainable use and restoration of biological and landscapes diversity."

Biological diversity, or biodiversity, encompasses all genes, species, habitats and ecosystems on earth, thereby including all living organisms and their intricate interdependence,[78] with the exclusion of human beings, organs and genetic materials as decided by the first Conference of the Parties to CBD. Biological diversity is defined in article 2 of CBD as "the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems."

The CBD and the international environmental community distinguish three levels of biological diversity:

- diversity between and within ecosystems and habitats (habitat diversity);
- diversity between species within a specific habitat or ecosystem (species diversity); and
- genetic variation within individual species (genetic diversity).[79]

Landscape is defined by the European Landscape Convention as "an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors." This definition reflects the idea that landscapes evolve through time and underlines that a landscape forms a whole, and whose natural and cultural components are taken together. The term "landscape diversity" is not explicitly defined in the convention,[80] but using the Preamble of the European Landscape Convention as guidance, we can determine that for the purposes of that convention landscape diversity encompasses the multitude of landscapes in urban areas and in the countryside, in degraded areas as well as in areas of high quality, in areas recognised as being of outstanding beauty as well as everyday areas.

According to the World Heritage Convention, cultural landscapes are cultural properties and represent the "combined works of nature and of man." They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces.

Conservation is a term that now is usually understood as being narrower than the terms "protection" or "preservation." Conservation demands maintenance of the conditions necessary for continued resource existence, and the reference point should be the status quo of the given living resource. This term is also understood as requiring that natural resources be exploited without exceeding the limits that guarantee the renewal and the sustainability of the resources. In terms of EU definition of this concept, the Habitats Directive defines conservation as a

series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable conservation status. Thus, according to this definition the concept of conservation includes also the concept of restoration.

According to the Convention on Biological Diversity, **sustainable use** means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

In May 2002, the Conference of the Parties to the Convention on Biological Diversity acknowledged that sustainable use of biological diversity is a priority issue and adopted decision V/24 on sustainable use as a cross-cutting issue. It is recognised that conservation and sustainable use of biological diversity are essential to the survival of species and also benefits humankind, particularly those people who are dependent on biological diversity for their livelihoods.

Sustainable use provides incentives for conservation and restoration because of the social, cultural and economic benefits that people derive from that use. Sustainable use cannot be achieved without effective conservation measures.

Restoration is an activity complementary to conservation and sustainable use. It is defined as "the return of an ecosystem or habitat to its original community structure, natural complement of species, and natural functions."[81] Restoration requires firstly the identification of habitats and ecosystems that have been degraded, followed by the design and implementation of measures to bring those back to a favourable conservation status.

This term is becoming increasingly relevant in the context of liability for damage caused to the environment. As an example, the EU Directive on Environmental Liability with Regard to the Prevention and Remedying of Environmental Damage[82] provides that remedying of environmental damage is achieved through the restoration of the environment to its baseline condition. This latter part requires the parties to take appropriate measures to ensure a high level of protection and sustainable use of:

- habitats (natural and semi-natural) and their characteristics, continuity and connectivity; and
- species of flora and fauna (in particular endangered species, endemic species, large carnivores).

Compared to the first provision, the second sentence refers to protection. This is a term that encompasses both a negative and positive obligation: refraining from activities that may harm biodiversity and taking active measures to prevent environmental degradation. Protection is gradually perceived as comprehensive ecological planning and management, with substantive regulations, procedures and institutions on a national scale.[83]

Habitat is defined by the CBD as the place or type of site where an organism or population naturally occurs. The European Commission's nature protection and biodiversity policy places great emphasis on habitat protection, requiring member states to designate special areas of conservation for habitats of Community interest and habitats for species of Community interest.

The Habitats Directive defines the term "natural habitat" as terrestrial or aquatic areas distinguished by geographic, abiotic and biotic features, whether entirely natural or semi-natural, and the term "habitat of a species" as an environment defined by specific abiotic and biotic factors, in which the species lives at any stage of its biological cycle. Compared to natural habitats, semi-natural habitats are habitats that, although altered by land management, sustain the native plants and animals of a given area.

One of the major threats to habitats and species populations and main causes of the decline in biological diversity in Europe is the fragmentation and isolation of habitats and the effect that this can have on the viability of species populations. Fragmentation is the breaking-up of continuous tracts of ecosystems creating barriers to migration or dispersal of organisms and reducing the size of homogenous areas. Fragmentation may be induced by human activities (e.g. road infrastructure) or by natural processes.[84]

Habitat fragmentation is also reflected as a priority concern in the Pan-European Biological and Landscape Diversity Strategy, as well as in the European Community Biodiversity Strategy (1998) and the EC Habitats Directive. Habitat continuity and connectivity refer to access to habitats in time and space respectively, and enable adequate opportunities for species populations for dispersal, migration and genetic exchange. Three requirements need to be satisfied in this respect:

- that species populations have access to a sufficiently large area of appropriate habitat;
- that migratory animal species have access to breeding grounds, wintering grounds and the stepping stones between them; and
- that opportunities are available for genetic exchange between different local species populations.

To ensure habitat connectivity, the concepts of ecological corridors and ecological networks have emerged.[85] The Pan-European Ecological Network, the Habitats Directive at EU level or the Green Belt Initiatives[86] all have as their core element the concept of ecological network. More details on these con-

cepts are provided under the description of paragraph 5 of this article.

The convention requires a high degree of protection and sustainable use of **species** of flora and fauna characteristic to the Carpathians, and places special emphasis on endemic species, endangered species and large carnivores.

Endemic species are species native and unique to a defined place or region. **Endangered species** are species in danger of extinction throughout all or a significant proportion of their range.

Several multilateral environmental agreements (MEAs) deal with endangered species: the CITES Convention regulates trade in endangered species of wild flora and fauna and draws up lists of such species. The Bonn Convention grants immediate and strengthened protection to endangered migratory species listed in Annex I, etc. The EU Birds and Habitat Directives also draw up lists of endangered species of birds and flora and fauna respectively, setting clear prohibitions for the deliberate taking, capture or killing, deliberate disturbance, taking eggs or deterioration or destruction of breeding sites or resting sites of flora, etc.

The IUCN Red List categories define **threatened species** as species facing an extremely high risk of extinction in the wild in the immediate (critically endangered), near (endangered) or medium-term (vulnerable) future.

Large carnivores (e.g. brown bear, wolf, lynx) make up an integral part of ecosystems and landscapes across Europe, but due to fragmentation of habitats their populations are significantly decreasing, especially in Western Europe. The Carpathians are home to the largest population of large carnivores in Europe, being characterised as "the last area in Europe to support viable populations of large carnivores."[87] This richness needs to be protected and this is why the convention mentions specifically the protection of large carnivores.

Most of the large carnivores are subject to special protection measures under the Bern Convention, being listed as "protected" (Eurasian lynx) and "strictly protected" (wolf, brown bear, wolverine and Iberian lynx).

A great deal of work is underway at the European level on the protection of large carnivores. For example, the Large Carnivore Initiative for Europe, a working group within the Species Survival Commission (SSC) of IUCN, has initiated several actions supporting large carnivore conservation,[88] such as the Carpathian Large Carnivore Project in Romania, which ended in 2003.[89]

Furthermore, WWF International initiated the Programme for Large Carnivores in Europe in 1995, and in the framework of the Bern Convention, a recommendation on conservation of large carnivores in the Carpathians was adopted in 2003.[90]

Main relevant international agreements, legal instruments and initiatives

All biodiversity-related conventions address, to varying degrees, issues of biodiversity conservation and sustainable use of its components.

BOX 6

Conserving large carnivores in the Carpathians

Large carnivores (brown bear, wolf, lynx) constitute a very characteristic and important feature of the biodiversity of the Carpathians. This region is an important refuge for a wide population of large carnivores. They play an essential role in the life of the region, controlling a number of species and acting as an indicator for the presence of these species. Despite the fact they are flourishing, large carnivores are threatened, especially by hunting and poaching.

With this in mind, the Carpathian Ecoregion Initiative has undertaken an assessment of the status of large carnivores in the region, which highlighted the need to use a regional approach in their conservation through a Pan-Carpathian Conservation and Management Strategy.

This project is calling for:

- development and adoption of national management plans for the Carpathian carnivores;
- clarification of legislation protecting large carnivores;
- research projects examining and monitoring population dynamics of the carnivores on a regional level; and
- development of compensation schemes to mitigate effects of conflicts with large carnivores for local communities.

Source: The Status of the Carpathians (2001), CERI

Article 1 of the **Convention on Biological Diversity** states:

"The objectives of this Convention, […], 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 utilisation of genetic resources..."

These objectives are developed in the following articles of the convention:

- article 6 on General Measures for Conservation and Sustainable Use;
- article 8 and 9 on in-situ and ex-situ conservation; and
- article 10 on Sustainable Use of Components of Biological Diversity.

The CBD requires the parties to promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings as well as to rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, *inter alia*, through the development and implementation of plans or other management strategies.

Articles 3 and 4 of the **Ramsar Convention** require parties to promote the conservation and wise use of wetlands, whether they are included in the Ramsar Wetlands List or not.

Under its article 2, the **CMS** calls for actions to avoid any migratory species becoming endangered.

Article 4 of the **WHC** refers to the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage.

Articles 1 to 7 of the **Bern Convention** emphasise conservation of wild flora and fauna and their natural habitats, with particular attention to endangered and vulnerable species.

In its article 2 the **Alpine Convention** requires the parties to take measures: "to protect, conserve and, where necessary, rehabilitate the natural environment and the countryside, so that ecosystems are able to function, animal and plant species, including their habitats, are preserved, nature's capacity for regeneration and sustainable productivity is maintained, and the variety, uniqueness and beauty of nature and the countryside as a whole are preserved on a permanent basis."

This conservation and protection obligation concerns biodiversity with a focus on the positive obligation to restore the environment where necessary in order to maintain the natural ecosystem as a whole (comprised of flora and fauna, their habitats, all natural resources and the aesthetic characteristic of nature) at a sustainable and productive level. A clear ecosystem approach guided the drafters' intent.

The obligations deriving from the biodiversity related MEAs can support the implementation of the Carpathian Convention, and governments should strive to make use of synergies among all of these international legal instruments.

Responsibilities of local authorities

Local authorities will play a key role in ensuring compliance with obligations deriving from this paragraph of article 4. The Protocol on Nature Protection and Landscape Management to the Alpine Convention includes a special article on the participation of territorial communities in the decision-making process related to nature protection and landscape management policies. Thus, while policies have to be adopted at the national level, special actions need to be taken at the local level. The involvement of local authorities may take various forms:

- Integrate biological and landscape diversity concerns into sectoral planning and especially land use planning at local level.
- Develop inventories of habitats, species of flora and fauna, especially endemic and endangered species, and landscapes at local level. The above-mentioned protocol to the Alpine Convention requires the parties to develop such inventories but also reports on the current state, and it defines a list of issues that should be covered by these inventories (article 6 and Annex I);
- Design and put in place special protection and conservation measures based on the results of the inventories. Moreover, special measures may be needed for the restoration of degraded habitats, reintroduction of species, etc. Successful cases have already been reported on the reintroduction of the European bison and rehabilitation of a population of Apollo butterflies in the Carpathian region.[91]
- Designate protected areas and, in some countries, depending on the administrative system, manage protected areas or supervise the management of these areas. This would require adoption of a management plan with involvement of all stakeholders and especially local communities, adoption of special regulations regarding the status of the protected area, conditions for visiting, protection and conservation measures, etc.
- Ensure public participation in the decision-making process, especially when taking protection measures that may restrict the right of use of nature resources, which affects local communities. The protocol to the Alpine Convention provides for the obligation to reach an agreement with the landowners or the ones that undertake forestry or agricultural activities in the

areas subject to project, with regards to the restrictions deriving from the nature and landscape protection requirements (art. 10).

- Regulate the activities that may have an impact on biological and landscape diversity etc. The Protocol to the Alpine Convention, in its article 9, requires the establishment of a system to assess the direct and indirect impact of measures and projects, private or public, likely to have a significant impact on nature or the landscape. The results of the impact assessment should be taken into account when taking a decision to authorise projects.
- Develop incentive measures for sustainable management of natural resources.
- Undertake public awareness raising, educational campaigns, etc.

Natural resources are not bound by political frontiers, and in order to achieve effective long-term results, there is a need for a uniform approach across the Carpathians. **Transboundary cooperation** gives countries the opportunity to establish dialogue and benefit from each other's experience. It also has the advantage of allowing development and the launch of harmonised actions and measures, such as common strategies or programmes. Several of the paragraphs of article 4 provide more detailed requirements on transboundary cooperation.

2. The Parties shall promote adequate maintenance of semi-natural habitats, the restoration of degraded habitats, and support the development and implementation of relevant management plans.

The second paragraph encompasses three different aspects:

- adequate maintenance of semi-natural habitats;
- restoration of degraded habitats; and
- development and implementation of management plans.

Main concepts

Semi-natural habitats are habitats that have been modified or created by human activities, but still hold species that occur naturally in the area, and in which natural processes are the most significant force in their development.[92] The parties are required to maintain the status quo, but the Convention uses the term adequate, which is vague and does not provide guidance on what are the appropriate measures. Case-by-case studies are therefore needed to determine the measures to undertake to maintain these types of habitats in their original state (e.g. prevent the degradation of these habitats, the decrease of their areas, etc.).

Degraded habitats are habitats altered by various impacts: pollution, human overuse of resources, invasive species, etc. The substantial loss of habitats and their increasing degradation is today a major issue. Habitat restoration is therefore an integral part of thematic work programmes of the Convention on Biological Diversity.

In contrast with conservation policy, restoration assumes that environmental degradation of habitats is a reversible process. Thus, targeted human intervention can lead to ecological function and biodiversity recovery, and eventual gains. (see box 7 and 8)

Restoration requires an in-depth knowledge of the structures and the functions of the original ecosystem as well as time, human resources, capacity and financial resources. Firstly, the degraded habitats need to be identified, followed by planning of specific restoration measures that may consist of cleaning and revegetating lands, reforesting, restoring river processes, re-introducing species, and other such measures at a local or larger scale. Despite the huge costs associated with all of these measures, the Carpathian Convention requires parties to promote the restoration of degraded habitats without giving guidelines regarding its financing. Solutions can range from taxes to fees in application to the polluter pays principle,[93] as well as EU funding such as LIFE or Interreg.

Management plans are an important tool for ensuring the protection of semi-natural habitats and restoring degraded habitats. The Convention does not specify

BOX 7

Restoration of grazing ground in the Alps

In the Autonomous Province of Trento and in the Piemonte Region, a number of interventions have been conducted in order to restore and realise grazing grounds in lands owned by local authorities. These projects could prevent the degradation of vast mountain areas and their rehabilitation. Moreover, important plans have been realised that are associated with such measures to create tourist paths along the mountains in order to sensitise the public and to re-establish the aesthetic value of these areas.

further requirements for the management plans, but taking into account the principles defined in article 2, it is to be understood that these plans should be developed and implemented with due account to the public participation and stakeholder involvement requirements. Moreover, they should be specific to the site and define clear objectives to be achieved, detailed actions, timeframes and financial means. Examples of good practice in management plans can be found under the Alpine Convention, Natura 2000 and other initiatives.

The recommended steps to be taken for developing management plans for degraded habitats are:

- identify degraded areas and causes;
- assess the feasibility of restoration;
- set objectives and prioritise restoration actions;
- establish appropriate management practices; and
- assess plan effectiveness.[94]

Main relevant international agreements, legal instruments and initiatives

The **Convention on Biological Diversity** addresses restoration of degraded ecosystems in two of its articles. Article 8 (f) requires the parties to rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, *inter alia*, through the development and implementation of plans or other management strategies, while article 10 (d) requires the parties to support local populations in developing and implementing remedial action in degraded areas where biological diversity has been reduced. Unlike the Carpathian Convention, the CBD also requires actions for the recovery of threatened species, and not only for restoration of degraded habitats.

Similar requirements are included in the **CMS** convention with regards to restoration of habitats which are of importance in removing the species from the danger of extinction (article 3, paragraph 4).

Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on Environmental Liability with Regard to the Prevention and Remedying of Environmental Damage entered into force on April 30, 2004. This directive establishes an environmental liability scheme for EU member states and applies to damage to species and natural habitats. Annex II recommends remedying environmental damage through the restoration of the environment to its baseline condition by way of primary, complementary and compensatory remediation.

Responsibilities of local authorities

Under this provision of the Carpathian Convention parties must "promote" and "support" adequate maintenance and restoration of habitats. Parties are therefore expected to provide a framework which requires development of actions plans and assists local populations in carrying out restoration and maintenance activities.

As explained under the first paragraph of the article, local authorities will play a key role in achieving these objectives by notably:

- financially supporting local initiatives;
- providing technical assistance; and
- coordinating the involvement of all stakeholders (e.g. NGOs, local communities) in programmes and actions aimed at biodiversity conservation and restoration.

While maintenance and restoration of degraded habitats are generally accomplished on small scales, broad collaboration between stakeholders is important. Authorities need to join forces in the definition of restoration methods and to share experiences.

For more detailed responsibilities for local authorities, see the explanation under paragraph 1 of article 4.

BOX 8

Restoration of the Apollo butterfly

The subspecies of Apollo butterfly found in the Pieniny National Park in Poland declined to just 20 individuals in the early 1990s. A 10-year conservation programme has sprung up in an effort to save this race of Apollo butterflies through captive breeding programmes and the protection of remaining habitat. Cooperation with the Slovak part of the park was initiated in 1994 and local people, students, teachers and national park rangers have learned from the lessons of its conservation in a community based monitoring programme. There is much to learn from the fact that the isolated population of 20 butterflies in the park has grown to more than 1,000 individuals in linked populations. Apollo butterflies are listed in Appendix II of the Convention on International Trade in Endangered Species (CITES).

Source: *The Status of the Carpathians* (2001), CERI

3. The Parties shall pursue policies aiming at the prevention of introduction of alien invasive species and release of genetically modified organisms threatening ecosystems, habitats or species, their control or eradication.

Main concepts

Invasive alien species (IAS) are non-native species introduced deliberately or unintentionally outside their natural habitats, where they become established, proliferate and spread in ways that cause damage to their receiving environment.[95] These may be predators, parasites, or aggressive species that deprive indigenous species of nutriments, water and light, and thus affect their survival. Their spreading into habitats is facilitated by open borders, international trade, tourism and, in some cases, even deliberate introduction without taking into account long-term effects on the receiving habitat. For these reasons, IAS are now recognised as the second greatest threat to biological diversity after habitat loss.[96] The concern regarding alien invasive species is considered as a cross-cutting issue under the CBD and is therefore reflected in the different CBD thematic areas of work.

In 2002, the 6th Conference of the Parties to the CBD adopted 15 guiding principles for the prevention, introduction and mitigation of impacts of invasive alien species.[97] IUCN has also developed Guidelines for the Prevention of Biodiversity Loss Caused by Alien Invasive Species[98] in 2000, and the IUCN Species Survival Commission (SSC) Invasive Species Specialist Group has developed a Global Invasive Species Database (and Early Warning System).

A European Strategy on Invasive Alien Species was prepared under the Bern Convention in 2003[99] as an answer to growing concerns regarding the lack of a coordinated approach at the European level to address the problems arising from the introduction of invasive alien species.

A genetically modified organism (GMO) is defined in Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms as organisms, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination. GMOs may include plants that have been altered genetically to give them better disease resistance or growth potential.

Awareness about the possible adverse impacts of an introduction of GMOs into the environment has been increasing significantly over the last years. A Protocol on Biological Safety (Biosafety Protocol) was adopted by the CoP of the Convention on Biological Diversity in 2000[100] with the aim to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. The use of GMOs is strictly regulated at the EU level, either in the case of deliberate release or contained use.[101]

Because of the lack of clear scientific evidence for the impacts of GMOs on the environment, the regulations regarding GMOs are based on the precautionary principle (see Chapter I.B of the Handbook). This prin-

BOX 9

Invasive alien species in Poland

Invasive alien species (IAS) are commonly regarded as a major threat to biological diversity on a global scale.

Collection and dissemination of information on IAS are widely recognised as crucial components for solving the problems they pose. In 1999, the Institute of Nature Conservation, Polish Academy of Sciences in Krakow developed a database on species introduced into Poland for the Ministry of the Environment. In 2003, thanks to a grant from the US State Department, part of the data was translated and made available on the web.

In 2003-2005, as a result of cooperation between a group of experts, new species were included. In 2005, the Polish database became a part of NOBANIS <www.artportalen.se/nobanis>, which is an important gateway to data on invasive alien species in northern and central Europe. Currently, 613 alien species of plants, animals and fungi are listed in the database. The data available for the species includes: pathway, place and time of introduction into Poland, current distribution, population trends and impact on native species, habitats and ecosystems. Necessity and methods of species control management are also assessed.

In the future, new alien species will be added to the database and data concerning the species already recorded will be updated. There are also plans to link the database to the Global Invasive Species Information Network.

<GISIN http://www.gisinetwork.org>

Source: www.iop.krakow.pl/ias

ciple requires preventive measures to be taken to protect the environment even when there is no full scientific certainty but there is a threat of serious or irreversible damage.

The Carpathian Convention calls for the prevention of the introduction and release, control or eradication of these threatening organisms, alien invasive species and GMOs. The information in Box 10 illustrates possible ways to prevent and manage invasive alien species.

The Carpathian Convention, acknowledging the risks posed by IAS and GMOs to biodiversity in the Carpathians, requires parties to pursue policies aiming at the prevention of introduction or release, control or eradication of such species and organisms. But like the other existing international legal instruments, the convention does not define a hierarchy of control measures, so parties have the choice between prevention, control or eradication measures or a combination of measures. The needed measures should be defined taking into account the specific conditions in each country, but with due account to the overall objective of ensuring conservation and sustainable use of biological diversity.

Furthermore, the Convention also specifies that only those IAS and GMOs that threaten ecosystems,[102] habitats or species should be targeted by these policies. This is not therefore a strict prohibition of introduction. A means to strengthen the Convention would be to adopt more stringent protocol obligations.

Nevertheless, this provision should be interpreted in the light of the principles defined in article 2 of the Carpathian Convention, including the precautionary principle.

BOX 10

Invasive alien species: a toolkit of best prevention and management practices

The Global Invasive Species Programme suggests the following methods for intervention:

- Prevention of introductions is the first and most cost-effective option. Exclusion methods based on pathways rather than on individual species provide the most efficient way to concentrate efforts at sites where pests are most likely to enter national boundaries and to intercept several potential invaders linked to a single pathway. Three major possibilities to prevent further invasions exist: 1. interception based on regulations enforced with inspections and fees, 2. treatment of material suspected to be contaminated with non-indigenous species, and 3. prohibition of particular commodities in accordance with international regulations.
- When prevention has failed, eradication is the preferred course of action. Eradication can be a successful and cost-effective solution in response to an early detection of a non-indigenous species. However, a careful analysis of the costs and likelihood of success must be made, and adequate resources mobilised, before eradication is attempted. Successful eradication programmes in the past have been based on 1. mechanical control, e.g. hand-pulling of weeds or handpicking of snails, 2. chemical control, e.g. using toxic baits against vertebrates, 3. habitat management, e.g. grazing and prescribed burning, and 4. hunting of invasive vertebrates. However, most eradication programmes need to employ several different methods. Each programme must evaluate its situation to find the best methods in that area under the given circumstances.
- The last step in the sequence of management options is the control of an invasive species when eradication is not feasible. The aim of control is to reduce the density and abundance of an invasive organism to keep it below an acceptable threshold. There are numerous specific methods for controlling invasive species. Many of the control methods can be used in eradication programmes, too. Mechanical control is highly specific to the target, but always very labour-intensive. Chemical control is often very effective as a short-term solution. The major drawbacks are the high costs, the non-target effects, and the possibility of the pest species evolving resistance. In comparison with other methods, classical biological control, when it is successful, is highly cost-effective, permanent, self-sustaining and ecologically safe because of the high specificity of the agents used. Biological control is particularly appropriate for use in nature reserves and other conservation areas because of its environmentally friendly nature and the increasing instances of prohibition of pesticide use in these areas. Integrated pest management, combining several methods, will often provide the most effective and acceptable control. Thus, chemical or mechanical controls and eradication methods are often extremely difficult and costly, while prevention and early intervention have been shown to be more successful and cost-effective.
- There will be situations where the current techniques for management of invasive alien species are simply inadequate, impractical or uneconomic. In this situation conservation managers may have to accept that they cannot control the invasive alien species and the only recourse is to develop ways to mitigate its impact on key habitats and species.

Source: http://www.cabi-bioscience.ch/wwwgisp/gtc3.htm

Main relevant international agreements, legal instruments and initiatives

Issues related to the introduction of IAS and release of GMOs are regulated at the international and European levels.

The most relevant is the Convention on **Biological Diversity**. Article 8 (g) requires parties to establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health. Article 8 (h) requires parties to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species. As mentioned before, a **Protocol on Biosafety** to CBD regulates the safe transfer, handling and use of GMOs with a specific focus on transboundary movements. The protocol establishes an advance informed agreement (AIA) procedure for ensuring that countries are provided with the information necessary to make informed decisions before agreeing to the import of such organisms into their territory.

The main aim of the **International Plant Protection Convention**[103] is to control pests of plants and plant products and prevent their international spread, and especially their introduction into endangered areas.

Article 11(b) of the **Bern Convention** requires parties "to strictly control the introduction of non native species."

In accordance with the precautionary principle, the objective of **Directive 2001/18/EC on the Deliberate Release into the Environment of Genetically Modified Organisms** is to ensure the protection of human health and the environment by regulating the deliberate release into the environment of genetically modified organisms for any other purposes than placing on the market within the Community, and the placing on the market of genetically modified organisms as or in products within the Community.

Responsibilities of local authorities

The design of policies and legislation at the national level falls clearly within the responsibilities of national level authorities. Local level authorities will be expected to be involved in the relevant decision-making processes and implementation, and enforcement of measures thus adopted. Local authorities may undertake the following:

- increasing public awareness of risks deriving from the introduction of IAS or release of GMOs;
- determining the presence of IAS and GMOs — early detection of alien species should be based on a system of regular surveys (general, site-specific or species-specific) to identify new established species;
- supporting and developing risk analysis including environment risk assessment, alert lists, diagnostic tools and capacity development for local decision making and rapid response;
- identifying needs and priorities at the local level;
- developing and implementing tools for the prevention, control and eradication of IAS and GMOs at the local level; and
- monitoring compliance with existing legislation, etc.

Since the growing freedom of trade and movement in Europe increases threats to biodiversity, **transboundary cooperation** is a prerequisite for effective results. As mentioned before, growing concerns at the European level led to the adoption of a European strategy on IAS, promoting the development and implementation of coordinated measures and cooperative efforts throughout Europe to prevent or minimise adverse impacts of IAS on Europe's biodiversity, as well as their consequences for the economy and human health and well-being. The parties to the Carpathian Convention should also coordinate their efforts in this area, by various means, including:

- collecting, managing and sharing information (species inventories, research and monitoring) — the regional exchange of information is crucial, especially in the context of trade;
- developing joint action plans for preventing the introduction of IAS and GMOs and their control and/or eradication; and
- assisting each other, though transfer of experience, training, etc.

4. The Parties shall develop and/or promote compatible monitoring systems, coordinated regional inventories of species and habitats, coordinated scientific research, and their networking.

This paragraph of the Convention emphasises cooperation among all Carpathian countries. The article should also be interpreted in the light of article 12, which defines general obligations regarding monitoring and research. Conservation and sustainable use of biological diversity cannot be achieved without having a sound information system, providing data on existing species and habitats, their status and ensuring regular monitoring.

Scientific inventories and research are needed to determine the presence of biological features and their

value, to understand natural interconnections between species and habitats (ecological processes), to determine which deserve protective measures, to identify key sites in terms of biodiversity, and other decisions. The convention stresses the need to coordinate environmental data collection and to establish monitoring systems, inventories and scientific networks at the regional level or coordinated among all the parties.

Main concepts

Monitoring Systems

Monitoring is the process of checking, observing and measuring something for a specific period of time. A biodiversity monitoring system provides a framework for reporting on its status and evolution. It includes the development of sophisticated databases and a range of tools to assist managers in defining outcomes, planning, and prioritising natural heritage projects.

Biodiversity indicators are effective tools for assessing progress in achieving global objectives, such as the Biodiversity 2010 target. Hence large efforts are presently undertaken by many national and international organisations to develop and coordinate work on relevant biodiversity indicators, either in the framework of CBD or at the European level.

Regional inventories

Besides monitoring, the provision calls for the development of regional inventories of species and habitats. The Carpathian Convention requires parties to develop and/or promote coordinated regional inventories, here to mean an inventory that reflects the biodiversity components across the Carpathians and thus includes data from all Carpathian countries. The methodology for developing the national inventories would need to be coordinated with a view to ensure data comparability and the processing of all national level information in the regional inventory.

The process of developing such inventories may prove to be a useful planning tool, as it will help identify endangered species and habitats, plan relevant restoration and conservation measures, etc.

Scientific research

As ecological issues become more and more complex, it is increasingly important to base conservation, sustainable use and restoration actions on scientific knowledge. Therefore, responses to biodiversity loss require effective scientific research and parties should promote the development of scientific methods and programmes.

Gaps in scientific knowledge can be filled by establishing a network within the scientific community and joining existing research programmes.

Several networks of research scientists exist in the field of biological diversity. For example, DIVERSITAS is an international global environmental change research programme of biodiversity sciences sponsored by the International Council for Science (ICSU). At European level, ALTER-NET has been established by the European Commission and gathers 24 organisations from 17 European countries. ALTER-Net addresses biodiversity research in terrestrial and freshwater ecosystems (long-term ecosystem research sites).

The Biodiversity Conservation Information System (BCIS), the Global Biodiversity Information Facility (GBIF), the European Biological Resource Centre Network (EBRCN) and the European Network for Biodiversity Information (ENBI) can also be mentioned.

Main relevant international agreements, legal instruments and initiatives

Several articles of the **CBD** focus on monitoring and scientific research: article 7 on identification and monitoring; article 12 on research and training; and article 18 on technical and scientific cooperation. The CBD requires preparation of national level inventories by identifying components of biological diversity important for its conservation and sustainable use and having regards to the indicative list of categories set down in Annex I, ecosystems and habitats, namely:

- species and communities; and
- described genomes and genes of social, scientific or economic importance.

BOX 11

Monitoring biodiversity in Switzerland

Switzerland is one of the first countries in the world to monitor its biological diversity. The Federal Office for the Environment (FOEN) has launched a programme for this purpose called Biodiversity Monitoring in Switzerland (BDM). Experts regularly count animals and plants in numerous predetermined areas in the field to make an exact database of biodiversity.

This database is fundamental to establishing and adopting an effective nature protection legislation in accordance with the principles of biodiversity conservation. Moreover, a coordination office has the duty to inform the public on the situation of the database and on the objectives of the project.

The Ramsar Convention, in its article 4, calls parties to "encourage research and the exchange of data and publications regarding wetlands and their flora and fauna."

Article 11 of the **World Heritage Convention** encourages parties to develop an inventory of property forming part of the cultural and natural heritage situated in its territory and suitable for inclusion on the World Heritage List.

Article 3 of the **Alpine Convention** is dedicated to research and systematic monitoring requires parties to:

- cooperate in the carrying out of research activities and scientific assessments;
- develop joint or complementary systematic monitoring programmes; and
- harmonise research, monitoring and related data-acquisition activities.

Article 4 also stresses legal, scientific, economic and technical cooperation.

Responsibilities of local authorities

While monitoring and research are activities undertaken essentially by research institutes, the data derived is to be used by authorities at local, regional and national levels as background information for the decision-making processes.

Authorities at the local level should therefore undertake the following:

- cooperate with research institutes in preparing biodiversity inventories at the local level;
- implement a biodiversity monitoring system at the local level and supervise its functioning;
- create partnerships between local authorities for monitoring;
- process and store monitoring data based on predefined indicators designed to detect changes in time frames and on the spatial scales that are relevant to policy objectives and decisions;
- establish a national coordinated information and monitoring system which is integrated with existing databases;
- support research activities, through incentives, grants, etc.;
- provide training, tools and technology transfers to local managers;
- ensure public access to monitoring data, etc.; and
- enhance communication and dissemination of biodiversity research results and increase scientists' awareness of policy and governance issues

This paragraph essentially requires close cooperation of the parties — compatible monitoring systems and harmonised methodologies should be developed to secure the same level, quality, quantity and format of data. Coordinated regional inventories and coordinated scientific research should also be developed and/or promoted. While the reference to regional inventories requires joint action of all parties, the reference to monitoring and research requires coordination of activities at the national level, without excluding joint action.

5. The Parties shall cooperate in developing an ecological network in the Carpathians, as a constituent part of the Pan-European Ecological Network, in establishing and supporting a Carpathian Network of Protected Areas, as well as enhance conservation and sustainable management in the areas outside of protected areas.

On the basis of scientific knowledge and assessment of the state of biodiversity, it is possible to designate protected areas and optimise nature conservation by developing national and trans-national ecological networks.

Main concepts

Ecological networks

Since its first appearance on the nature conservation scene in the early 1980s, the concept of ecological networks has gained increasing awareness. The concept is straightforward: the fragmentation of habitats can be counteracted by creating buffer zones to protect the surviving natural areas and connecting these core areas via stepping stones and corridors, which allow species to colonise new areas and to move freely in search of food or a mate.

Ecological networks contain four main elements:

1. Core areas: These are areas where the primary function is biodiversity conservation. They are usually legally protected under international, European or national legislation (e.g. Natura 2000 sites). These areas should provide a substantial representation of key natural or semi-natural ecosystems and contain viable populations of important or threatened species. Land use within these areas is managed by giving priority to biodiversity conservation.
2. Corridors: These are areas of suitable habitat that provide functional linkages between core areas and, for example, stimulate or allow species migration. Corridors can be continuous strips of land or

stepping stones that are patches of suitable habitat. Using corridors to improve ecological coherence is one of the most important tools in combating the fragmentation that is threatening so many of Europe's habitats. Generally speaking corridors can be associated with higher levels of land use, as long as their function is maintained.

3. Buffer zones: These are areas along the edge of protected areas which play a special role in preventing and limiting negative external effects. The resource use that occurs outside these protected areas can have serious impacts on species and habitats. For example, air or water pollution from industrial activities around a protected area can have serious effects on species inside it. Buffer zones allow a smoother transition between core areas and surrounding land use. The size and utilisation of buffer zones depends heavily on the particular needs of the specific ecosystem and its local population.
4. Sustainable use areas: These are remaining areas that can come under more intensive land use. However, they should still take full account of the successful provision of ecosystem goods and services.[104]

Several ecological networks exist on a regional level such as the Pan-European Ecological Network, the Emerald Network,[105] the Natura 2000 Network, the European Green Belt,[106] and the Alpine Network of Protected Areas.[107] IUCN maintains a useful database on ecological networks, providing information on the location and size of the network, the environmental characteristics, the legal status of the network as well as the process for establishing the network and linkages to existing international legal instruments or initiatives.[108] The World Database on Protected Areas[109] provides a comprehensive set of data on the status, environment and management of individual protected areas worldwide.

In this frame, the Convention calls for the establishment of an ecological network in the Carpathians and particularly, a Network of Protected Areas. Ecological networks or networks of protected areas are usually developed on the basis of an existing designated area at the national level (natural parks, nature reserves, biosphere reserves, protected landscape areas, etc.). Indeed, ecological networks contribute to strengthened protection by ensuring that biodiversity and landscapes of the region are effectively conserved and managed based on an integrated and regional vision.

The **Pan-European Ecological Network** (PEEN) is one of the most important implementation tools of the Pan-European Biological and Landscape Diversity Strategy. The development of the PEEN, which aims to link the different European and national protected areas and ecological networks, is based on common objectives adopted by European States during the 3rd Conference of Ministers "Environment for Europe" in Sofia, on October 25, 1995: "The Pan-European Ecological Network will contribute to achieving the main goals of the Strategy by ensuring that a full range of ecosystems, habitats, species and their genetic diversity, and landscapes of European importance are conserved; habitats are large enough to place species in a favourable conservation status; there are sufficient opportunities for the dispersal and migration."

The main achievements to date include the preparation of the indicative map of the network, the adoption of the general guidelines for the establishment of the network and the adoption at the Kiev Conference in 2003 of clear commitments to identify by 2006 the Pan European Ecological Network, reflected on coherent maps, to adequately conserve by 2008 all core areas of the PEEN, etc.

The **Carpathian Convention** also acknowledges the need to have a wider approach to nature conservation: the concept of ecological network recognises that the traditional approach of focusing on the protection of individual sites and species will not be sufficient in the long term and that a network of natural and semi-natural areas is of crucial importance. In this respect, parties are required to enhance conservation and sustainable management also in the areas outside protected areas, applying an ecosystem approach (see Chapter I.B of the handbook). Indeed, non-protected areas can function as corridors or transitional habitats, and provide the spatial and biological interconnections indispensable to the dispersal, migration and genetic exchange of species. These areas need to benefit from conservation policies and sustainable management.

A protected area is defined by CBD as a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives. Experience shows that a good network of protected areas may form the pinnacle of a country's efforts to protect biodiversity.[110] IUCN defines a protected area as: "an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means."[111]

IUCN categorises protected areas by management objective and has identified six distinct categories of protected areas: strict nature reserve/wilderness area; national park; natural monument; habitat/species management area; protected landscape/seascape; and managed resource protected area. In this provision, emphasis is put on cooperation through the establishment of a practical tool for protected areas conservation beyond national boundaries. Work is already under way on the establishment of the Carpathian Network of Protected Areas. (see box 13)

Main relevant international agreements, legal instruments and initiatives

Article 8 (a) and (b) of the **Convention on Biological Diversity** require parties to establish a system of protected areas or areas where special conservation measures should be taken and to develop guidelines for the selection, establishment and management of protected areas or areas where special conservation measures are needed.

The seventh CoP of the Convention on Biological Diversity adopted the programme of work for protected areas. Its overall purpose is to support the establishment and maintenance by 2010 for terrestrial and by 2012 for marine areas of comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas. Through a global network this effort would contribute to achieving the three objectives of the Convention and the 2010 target

BOX 12

Hungarian National Ecological Network

Following the guidelines of the Council of Europe, Hungary designated a National Ecological Network (ECONET), which is part of the Pan-European Ecological Network.

The main goal of ECONET is to ensure a favourable conservation status of the ecosystems, habitats, species and landscapes of European importance.

A real network of naturally valuable areas which permits dispersal and migration of plants and animals has been established and built in the Hungarian legal system to address the problems deriving from increased habitat fragmentation. The network, and mainly its core areas, is intended to provide viable conditions for the most vulnerable habitats and species. The designation of ECONET was also an important strategic goal to protect Hungarian areas which have natural values but which are not protected by law (such as natural areas, environmentally sensitive areas, most of the ecological corridors, active floodplains, reedbeds, etc.).

The network is built up from three functionally complementary components:

- core areas that provide the optimum achievable quantity and quality of environmental space;
- corridors to ensure appropriate interconnectivity between the core areas (continuous corridors and stepping stones); and
- buffer zones to protect the core areas and corridors from potentially damaging external influences.

The network contains all Hungarian important areas at international, European and national scale:

- protected areas (Ramsar sites, World Heritage sites, national parks, landscape protection areas, nature conservation areas);
- buffer zones of the protected areas;
- environmentally sensitive areas (ESAs) which are connected directly to the National Agri-Environmental Programme;
- Natura 2000 areas; and
- natural areas (non-protected areas with natural values).

Several databases were used for identifying the components of ECONET:

- database of protected areas;
- databases of active floodplains;
- databases of the forestry service;
- Corine landcover 1:100,000;
- 1:50,000 digital landcover maps;
- geocoded, vectorised photos of SPOT 4 satellite images;
- 1:25,000 and 1:50,000 scales Gauss-Kruger topographical maps;
- results of the Corine Biotopes Programme;
- database of the Environmentally Sensitive Areas; and
- databases of Natura 2000 areas (based on the Bird and Habitat directives of the EU).

Source: http://www.cabi-bioscience.ch/wwwgisp/gtc3.htm

to significantly reduce the current rate of biodiversity loss at the global, regional, national and sub-national levels. It would also contribute to poverty reduction and the pursuit of sustainable development, thereby supporting the objectives of the Strategic Plan of the Convention, the World Summit on Sustainable Development Plan of Implementation and the Millennium Development Goals.[112]

Article 12 of the **Protocol on Nature Conservation and the Landscape Management of the Alpine Convention** states: "The contracting parties take adequate measures to establish a network of existing national and transboundary protected areas, of biotopes and other protected elements or those to be protected. They commit themselves to harmonise the objectives and applicable measures in transboundary protected areas."

The Alpine Network of Protected Areas is already sharing its experience with the Carpathian countries, assisting the efforts to establish a Carpathian network of protected areas.

Responsibilities of local authorities

Local and regional authorities will play a key role in establishing a network of protected areas both at national and regional levels. Depending on the administrative system in each country, local authorities may be involved in the following activities:

- maintaining a database of protected areas within its jurisdiction, detailing the size of the areas, the delineation, protection status, management plans, etc. — this database may be part of the process of developing the biodiversity inventories;
- designating new protected areas, as needed, or extending the territory of existing protected areas;
- coordinating the development of a management plan with involvement of all stakeholders;
- managing or supervising the management of the protected areas;
- establishing special conservation measures outside protected areas;

BOX 13

Carpathian Network of Protected Areas – progress is underway

The CNPA mission is to contribute to the protection and sustainable development of the Carpathians. The CNPA is a tool for the implementation of the Carpathian Convention, by enhancing the cooperation of Carpathian protected areas with each other and with other mountain regions of Europe. The CNPA is a network of protected areas promoting cooperation, representing the interests of Carpathian protected areas to national and international authorities and organisations.

The CNPA goals are:

- protection, restoration of nature and sustainable use of natural and cultural resources;
- implementation of the EU Habitat Directive, the EU Bird Directive, Natura 2000 concept and Water Framework Directive, the EU policy towards nature conservation, including regional and global environmental conventions and instruments (Convention of Biodiversity, Ramsar Convention, Bern Convention, PEBLDS, etc.) in the framework of the Carpathian Convention; and
- promotion of sustainable livelihoods and sustainable development of the Carpathians.

The CNPA functions are:

- networking and cooperation;
- capacity building (know-how);
- exchange of experience, knowledge and data (workshops, staff exchanges, etc.);
- communication (publications, public awareness building);
- coordinating common activities and projects;
- awareness building, information;
- lobbying and fundraising for joint activities; and
- preparing recommendations for Carpathian convention bodies.

The managers of protected areas in the Carpathians adopted a declaration in June 2006 asking for the legal establishment of the CEPA at the first Conference of the Parties to the Carpathian Convention.

Source: Network of Carpathian Protected Areas and Ramsar Sites http://www.sopsr.sk/karpaty/index.php?p=6

- promoting and supporting public awareness, education, research, etc.; and
- representing protected areas in decision-making forums in, for example, a network of protected areas.

6. The Parties shall take appropriate measures to integrate the objective of conservation and sustainable use of biological and landscape diversity into sectoral policies, such as mountain agriculture, mountain forestry, river basin management, tourism, transport and energy, industry and mining activities.

This paragraph reflects the understanding that conservation and sustainable use of biological and landscape diversity can only be effective through an integrative approach. Natural resources cannot be preserved by biodiversity and landscape targeted policies alone. Excessive impacts on them are or will be exerted because of activities and practices which induce behaviour that can prove to be unsustainable, such as concentrated tourism, transport, and intensive use of resources.

Adequate sectoral policies can influence positively biodiversity conservation and sustainable use if these considerations are taken into account and a balance between ecological needs and economical activities is struck. Biodiversity and landscape conservation and sustainable use need to be integrated at all levels of decision-making processes.

The Carpathian Convention uses the example of sectoral policies that must integrate biological and landscape diversity concerns, namely mountain agriculture, mountain forestry, water management, tourism, transport and energy, industry, and mining. Tools that ensure integration include environmental impact assessment and strategic environmental assessment. All projects, programmes or policies likely to have an impact on biological or landscape diversity should be subject to an environmental impact assessment procedure. The results of the assessment should be taken into account in the permitting or authorisation process. Another way to ensure integration is by rethinking the sectoral policies and including specific measures aimed at reducing or eliminating the impact of such policies, identifying mitigation options, etc.

Main relevant international agreements, legal instruments and initiatives

Programme A under chapter 8 of **Agenda 21** on Integrating Environment and Development at the Policy, Planning and Management Levels, is intended to improve or restructure the decision-making process so that consideration of socio-economic and environmental issues is fully integrated.

Article 10(a) of **CBD** requires parties to "integrate consideration of the conservation and sustainable use of biological resources into national decision-making." Article 6 (b) requires that integration occurs within "relevant sectoral or cross sectoral plans, programmes and policies." The Ramsar Convention, CMS and other agreements include similar types of provisions.

The **Protocol on Nature Protection and Landscape Management** of the Alpine Convention underlines the necessity to coordinate the policies concerning protection and sustainable use of biodiversity with all the other objectives of the Alpine Convention as a whole. Biodiversity is an essential object in the policies concerning spatial planning, soil protection, air protection, tourism, forests protection, transport and energy.

Responsibilities of local authorities

Local authorities play a key role in implementing the integration requirements, as in most of the cases they will be the decision makers on permitting specific activities, such as mining, building up of tourist facilities, etc. Moreover, as coordinators of local level planning, they will need to base the entire process on an integrative approach and take into account the objective of conservation and sustainable use of biological and landscape diversity. Local authorities are also expected to foster public participation in the decision-making process, ensure access to information, education of the public, etc.

Linkages with other articles of the Convention

This article should be read in conjunction with the following articles of the Convention:

Article 2: The general objectives and principles should always be followed when taking measures for the implementation of the Convention.

Articles 3 and 5: Integrated land resources management and a spatial planning approach are essential in the preservation of habitats, their continuity and connectivity, and of species and the conservation of landscapes.

Article 6: River basin management policies should integrate the objectives of conservation and sustainable use of biological diversity. Waters also provide valuable habitats, and wetlands require special protection measures.

Article 7: Agriculture and forestry are threats to biological diversity, but at the same time they could also contribute to conservation and protection efforts. These policies should integrate the objectives of conservation and sustainable use of biological diversity.

Article 8: Development of transport infrastructure is one of the major causes of habitat fragmentation. Transport policies should integrate the objectives of conservation and sustainable use of biological diversity.

Article 9: Biodiversity has a high value for tourism. However, uncontrolled tourism development may have a significant impact on biological and landscape diversity. Tourism policies should integrate the objectives of conservation and sustainable use of biological diversity.

Article 10: Industry and energy policies should integrate the objectives of conservation and sustainable use of biological diversity.

Article 11: The conservation and sustainable use of natural resources will lead to the preservation of the cultural heritage since these two areas are linked.

Article 12: Environmental assessment and monitoring programmes contribute to implement obligations of Article 4.

Article 13: Awareness raising, education and public participation can promote the crucial role played by biological and landscape diversity in the Carpathians and increase the demand for conservation measures.

Chapter E
Article 6

Article 6 – **Sustainable and integrated water/river basin management**

Taking into account the hydrological, biological and ecological, and other specificities of mountain river basins, the Parties shall:
(a) take appropriate measures to promote policies integrating sustainable use of water resources, with land-use planning, and aim at pursuing policies and plans based on an integrated river basin management approach, recognizing the importance of pollution and flood management, prevention and control, and reducing water habitats fragmentation,
(b) pursue policies aiming at sustainable management of surface and groundwater resources, ensuring adequate supply of good quality surface and groundwater as needed for sustainable, balanced and equitable water use, and adequate sanitation and treatment of waste water,
(c) pursue policies aiming at conserving natural watercourses, springs, lakes and groundwater resources as well as preserving and protecting wetlands and wetland ecosystems, and protecting against natural and anthropogenic detrimental effects such as flooding and accidental water pollution,
(d) further develop a coordinated or joint system of measures, activities and early warning for transboundary impacts on the water regime of flooding and accidental water pollution, as well as co-operate in preventing and reducing the damages and giving assistance in restoration works.

Mountain areas are the source of more than half of the world's fresh water, being the origin of the world's largest rivers and the repository of freshwater in basins, snow and glaciers.[113] Due to the importance of mountains as "water towers" providing freshwater supply for both upstream and downstream communities,[114] the need to develop management systems for water/river basins expressly for mountain areas has been widely recognised at the international level. Indeed, Chapter 13 of Agenda 21 on managing fragile ecosystems: sustainable mountain development, recalls the strong link existing between water resources and mountains.

Article 6 of the Carpathian Convention lays down a set of obligations for Parties aimed at reaching a comprehensive approach to water and river basin management.

Taking into account the hydrological, biological and ecological, and other specificities of mountain river basins, the Parties shall:(a) take appropriate measures to promote policies integrating sustainable use of water resources, with land-use planning, and aim at pursuing policies and plans based on an integrated river basin management approach, recognizing the importance of pollution and flood management, prevention and control, and reducing water habitats fragmentation,

The main obligation contained in this first provision is the promotion of integrated water resource management.

Main concepts

Water resources refers to the network of surface and ground waters (lakes, rivers, etc) that supply water for essential human uses. The Convention makes linkages with **land-use planning,**[115] since each type of land use has a varying effect on the hydrologic cycle, thereby affecting water resources.

Sustainable use is defined in Chapter I.D of the Handbook.

A **river basin** is the entire geographical area drained by a river and its tributaries. It is generally recognised that individual water resources projects and policies have implications for other water users within the river basin, both upstream and downstream, and

for the environment. Integrated river basin management is the primary mechanism for addressing these issues and impacts.

Integrated water resources management (IWRM) is an approach based on the perception of water as an integral part of the ecosystem, a natural resource and a social and economic good, whose quantity and quality determine the nature of its utilisation.[116] It specifically considers the interaction between all components of water resources and water resource users, and is mainly inter-sectoral and demand driven.[117]

The principal objectives of IWRM, according to Agenda 21,[118] are the following:

- to promote a dynamic, interactive, iterative and multisectoral approach to water resources management, including the identification and protection of potential sources of freshwater supply, that integrates technological, socio-economic environmental and human health considerations.
- to plan for sustainable and rational utilisation, protection, conservation and management of water resources based on community needs and priorities within the framework of national economic development policy;
- to design, implement and evaluate projects and programmes economically efficient and socially appropriate with the strategies of wide management, based on an approach of full public participation; and
- to identify the appropriate institutional, legal and financial mechanisms to ensure that water policy and its implementation are a catalyst for sustainable social progress and economic growth.[119]

Adopting an integrated river basin management plan means that Parties should regulate water courses taking into account other policies for mountain areas that are related to the management of water resources, like land-use planning,[120] mountain agriculture and forestry.[121] Water plays a critical role for both the environment and human life and health. It is an element deeply interrelated with many other fields of the environment, such as soil, nature and countryside, agriculture, forests and energy. Policies developed in all of these fields should be applied in an integrated way. According to this provision, plans and policies should take into account pollution and flood management, prevention and control.

Prevention requires that necessary measures are taken to avoid any damage which is very likely to occur in the future based on scientific evidence. Priori-

BOX 14

Managing the Danube river basin

To ensure good water status and a sufficient supply of clean water for future generations in the Danube region, the Contracting Parties to the Danube River Protection Convention nominated the International Commission for the Protection of the Danube River (ICPDR) as the coordination body for the development of a comprehensive management plan for the entire Danube river basin using the principles of the EU Water Framework Directive.

This process involves experts from industry and agriculture, and representatives from environmental and consumer organisations as well as the local and national authorities. The Danube River Management Plan is to be updated every six years according to EU legislation.

The management plan aims to create a programme of measures to ensure that environmental objectives are met on time. The plan includes:

- a general description of the characteristics of the Danube river basin;
- a summary of significant pressures and impacts of human activities on the status of surface water and groundwater;
- a map of monitoring networks;
- a list of environmental objectives;
- a summary of the economic analysis of water use;
- a summary of the programme of measures; and
- a summary of the public information and consultation measures taken in the river basin.

The Danube River Basin Management Plan follows the ambitious deadlines set out in the EU Water Framework Directive: the goal is to achieve good water status in the water bodies of the Danube region by 2015.

Source: www.icpdr.org/icpdr-pages/river_basin_management.htm

ty should be placed on preventive actions with the aim of minimising the occurrence of accidental pollution and consequently the costs and burden of related environmental damage remediation.

On a practical level, the certainty of harm to occur is difficult to prove and demonstrate. To avoid this difficulty the EU Water Framework Directive, for example, prescribes **pollution control** at the source and the establishment of "emissions limit values and environmental quality standards."[122] Further details on the definition of the prevention principle can be found under Chapter I.B of the Handbook.

Finally, the Convention points out that works on the banks and watercourse itself can cause **habitat fragmentation**.[123] Indeed, the loss of wooded wetland habitat and wet prairie, and the degradation of aquatic resources have major impacts on the water ecosystems and should therefore be considered in every project.

Main relevant international agreements, legal instruments and initiatives

The obligations of sustainable use and integrated management of water are endorsed in several international instruments and multilateral agreements related to water management at the global, regional and sub-regional levels.

The **Convention on Protection and Use of Transboundary Watercourses and International Lakes**, better known as the Water Convention[124] (Helsinki, March 17, 1992), is intended to strengthen national measures for the protection and ecologically sound management of transboundary surface waters and groundwaters. It notably requires measures to ensure that "transboundary waters are used with the aim of ecologically sound and rational water management, conservation of water resources and environmental protection."

The **United Nations Convention on the Law of the Non-navigational Uses of International Watercourses**[125] (New York, May 21, 1997 — not yet in force) promotes the rational and optimal utilisation, protection and control of watercourses, as well as the adoption of plans for their sustainable development. Furthermore, the prevention principle is endorsed in articles 21 and 26 of the convention, but with a precautionary connotation.

The **Danube River Protection Convention**[126] (Sofia, June 29, 1994) is particularly important for the river basin management of the Carpathian area, since most of the Carpathian countries are riparian to the Danube and are parties to this convention.[127] It calls for a preventive approach, notably regarding planned activities and measures in the field of water construction works and flood control, as well as the impacts of these facilities on the hydraulic regime of the watercourse.

Even though the connection between mountain sustainable development and river basin management has not been addressed by the aforementioned international treaties, the rules designed for the management of international water resources are directly applicable to mountain areas.

The **Alpine Convention**[128] pays special attention to water management, taking into account both the need to preserve the ecological value of mountain water resources and to use it for anthropogenic activities. The convention recalls the critical role played by water resources in mountain ecosystems and promotes "the prudent and sustained use of resources." The objective of the policies to be developed in the Alpine Countries shall be "to preserve or re-establish healthy water systems, in particular by keeping lakes and rivers free of pollution, by applying natural hydraulic engineering techniques and by using water power, which serves the interests of both the indigenous population and the environment alike" (Article 2). A **Protocol to the Alpine Convention on water management** is under development.

According to Chapter 13 of **Agenda 21**, one of the main challenges for mountain areas is "promoting integrated watershed development and alternative livelihood opportunities." It also states that inquiries into water use and its distribution in mountain regions shall be promoted and that "the existing land/water knowledge base regarding technologies and agricultural and conservation practices in the mountain regions of the world" shall be built or improved, by means of the establishment of new institutions at the local, regional and national level or strengthening the existing ones.

The **European Union Water Framework Directive**[129] establishes "the basic principles of sustainable water policy in the European Union […] in order to coordinate Member States' efforts to improve the protection of Community waters in term of quantity and quality, to promote sustainable water use, to contribute to the control of trans-boundary water problems, to protect aquatic ecosystems and wetlands."

Although not all the Carpathian countries are members of the European Union, this directive is a basis for the renewal of legislation of the EU members.[130] It is also the standard to which the future acceding countries need to conform their environmental legislation.

Responsibilities of local authorities

An attentive and integrated management of water resources and river basins should be promoted in order to improve the environmental and economic efficiency of water use, including environmental and economic costs.

Local authorities should develop detailed policies and plans based on a dynamic process that includes

the participation of all stakeholders in the decision-making process. Integrated water management and planning policies should be based on:

- general measures for the protection and conservation of water resources, including protection of mountain slopes and riverbanks;
- adequate information, through the development of mechanisms for gathering and disseminating data, including inventories of the aquatic fauna and flora, as well as the inventory of current and planned activities on the river basins; and
- interdisciplinary cooperation regarding environmental impact assessment and risk management

Concurrently, local land-use plans and all the sectoral policies should take into account potential impacts on the water resource, the hydrological processes, water habitats, and/or the banks.

(b) pursue policies aiming at sustainable management of surface and groundwater resources, ensuring adequate supply of good quality surface and groundwater as needed for sustainable, balanced and equitable water use, and adequate sanitation and treatment of waste water,

Article 6 (b) stresses the primary role of the quality of water resources in the management and use of water in a sustainable, balanced and equitable way. It also requires parties to ensure the use of adequate technology for this purpose.

Main concepts

Groundwater and surface water are fundamentally interconnected. Located beneath the Earth's surface, groundwater is a "reservoir" of fresh water, naturally replenished by surface water from precipitation, streams, and rivers. Moreover, groundwater quality has a direct impact on the quality of those surface waters, as well as that of associated aquatic and terrestrial ecosystems.

Inappropriate water use can lead to considerable environmental and economic costs. A possible means for achieving sustainable management of surface and groundwater resources is to design policies aimed at promoting a balanced and equitable use of water. The principle of **equitable and rational use of waters** aims to balance the conservation of the quality and quantity of water resources with the economic use of freshwater by riparian States for human activities. It is therefore closely linked to the concept of sustainable development,[131] and represents "the most widely accepted principle of watercourse law."[132]

Furthermore, the Convention calls for the supply of **good quality water**. This means that parties have to maintain and, where possible, improve the current water quality and environmental conditions of water resources. The quality needs to be appropriate for use (e.g. bathing, drinking), which can require the application of water quality standards that define the water quality goals of a water body.

The Convention also pays specific attention to the water used and adversely affected in quality by anthropogenic influences (industry, agriculture, domestic utilisation, etc.), which needs to be treated before it is released back to the environment. **Sanitation** is the hygienic disposal or recycling of waste and includes the collection and treatment of wastewater.

Treatment of wastewater is the process of removing contaminants (pollutants, toxic and harmful compounds) from wastewater. Therefore, specific attention has to be paid to the treatment and disposal of sludge resulting from wastewater treatment, which often contains toxic and harmful compounds. The main aim of treatment should be to verify their degradation and ascertain the toxicity of their significant by-products. When managed properly and carefully, wastewater can be converted into a valuable resource and can be reused under certain circumstances.

The main aim is to guarantee good water quality and consequently promote good environmental, health and hygiene conditions in the region.

Main relevant international agreements, legal instruments and initiatives

The principle of equitable and rational use of waters was first endorsed in the **Convention on Protection and Use of Transboundary Watercourses and International Lakes**. Article 2 of this convention calls for the parties to take the appropriate measures to "ensure that transboundary waters are used in a reasonable and equitable way [...] in the case of activities which cause or are likely to cause transboundary impact."

The same concept is presented regionally by the **Convention for the Protection and Sustainable Use of the Danube River**, where all of the state parties are obliged under article 2 to strive for "rational use of surface waters and ground waters in the catchment area as far as possible," and in article 6 to "take appropriate measures aiming at the prevention or reduction of transboundary impacts and at a sustainable and equitable use of water resources."

Article 5 of the **UN Convention on the Law of the Non-navigational Uses of International Watercourses** states: "States shall in their respective territories utilise an international watercourse in an equitable and reasonable manner […] with a view to attaining optimal and sustainable utilisation thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse." Moreover, "Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner" so as to balance "both the right to utilise the watercourse and the duty to cooperate in the protection and development."

The Commentary to the International Law Commission's draft articles on the law of the non-navigational use of international watercourses provides excellent insight into the considerations and the legal background behind concepts such as equitable and reasonable use.[133]

Chapter 18 of **Agenda 21**, which deals with protecting the quality of freshwater resources, encourages all states, "according to their capacity and available resources," to enter into bilateral or multilateral cooperation "to initiate programmes for the protection, conservation and rational use of surface and groundwater resources on a sustainable basis."

Early European water legislation began with standards for rivers and lakes used for drinking water abstraction and culminated in setting binding quality targets for fish waters, shellfish waters, drinking waters, bathing waters and ground waters. The **Water Framework Directive** adopted in 2000 establishes deadlines for achieving "good status" for all waters.

Responsibilities of local authorities

Local authorities should focus their attention on supply and use of renewable and non-renewable groundwater resources, promoting water conservation, reuse, and source protection to enhance water quality and quantity. They should ensure equitable access to water services, to the use of water resources, and to the benefits derived from the use of water resources. The regulation and control of water use and water discharge is therefore necessary, and can be achieved through, for example, regular monitoring, issuance of permits and scientific research. While issuing permits for water use, local authorities should ensure that sustainable, balanced and equitable use is observed.

Local authorities should also contribute to the development of policies towards sustainable use and management of surface and groundwater resources, with particular focus on treatment of wastewater. In this framework, the different options for supply as well as treatment of water should be assessed. Selecting an appropriate approach should be based on the criteria of sustainable use and safeguarding the fundamental role of ecosystems as providers of clean water.

(c) pursue policies aiming at conserving natural watercourses, springs, lakes and groundwater resources as well as preserving and protecting wetlands and wetland ecosystems, and protecting against natural and anthropogenic detrimental effects such as flooding and accidental water pollution,

In contrast with the previous paragraphs, this provision requires parties to take measures towards the conservation, preservation and protection of specific surface and groundwater sources.

Main concepts

Besides efficient use of water resources, conservation, preservation and protection are a primary means to ease pressure on water resources. The provision focuses on natural watercourses, springs, lakes and groundwater resources, and places special emphasis on wetlands. A definition of **wetland** is offered in

BOX 15

Programme for the Sustainable Use of Water Resources, Italy

In 2004 the Italian Ministry for Environment and Territory launched the Programme for the Development, Improvement and Update of the Water System of the Country. This programme includes consistent financial support for all of the initiatives that regions were willing to undertake in this field.

The ministry signed several contracts with the regions and autonomous provinces to develop initiatives related to the conservative management and saving of hydrogeological resources, the use of best available techniques, research into new energetic sources, and other areas. These interventions must respect national law and EU directives, as well as international guidelines concerning environmental initiatives (e.g. EIA, public participation, etc).

article 1 of the Ramsar Convention: wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6 metres.

The distinction between **conservation, preservation and protection** is explained in Chapter I.D of the Handbook. The goal is to maintain both hydrological and biological processes and biodiversity in water ecosystems. This is essential for the good functioning of wider ecosystems, the sustainable use of water resources and the safeguarding of services and goods provided by ecosystems.

Effective management and protection of resources can only be achieved if decisions are based on sound information. The following measures should be taken by the Carpathian countries to help them in complying with the obligations of the Convention:

- An environmental impact assessment[134] that leads to an evaluation of the likely impacts of a proposed activity on the environment, including water, should be undertaken before any project to allow the effective control and prevention of harmful impacts on water. The results of the assessment should be taken into account when taking a decision to authorise the projects.
- Periodic monitoring of water resources is needed in order to ensure that their crucial hydrological functions are not degraded. Water monitoring should consider both water quality and water quantity measurements.
- Indicators of the performance of the functioning of ecosystems should be developed for monitoring biodiversity and expanded in order to include other functions of freshwater ecosystems.

Floods and **accidental water pollution** are given as examples of natural and anthropogenic risks that can affect water resources. Flooding is a natural phenomenon that has not only detrimental impacts on people and goods, but also on water quality, as large volumes of water can transport contaminants into water bodies. The reduction of pressures on resources and the use of floodplains would therefore be beneficial.

Accidental water pollution can cause widespread damage to the environment, harming flora and fauna, and limiting the use of water resources. To prevent and minimise such effects, hazardous activities, in particular in catchment areas of waters, should be regulated and contingency plans should be elaborated.

Main relevant international agreements, legal instruments and initiatives

All the international agreements already mentioned deal with the conservation, preservation and/or protection of the water resources and water ecosystems.

The **Convention on Wetlands,**[135] better known as the Ramsar Convention (Ramsar, February 2, 1971), provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. The convention covers all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities.

In 2000, the **UNECE Guidelines on Sustainable Flood Prevention** resulted from the Second Meeting of the Parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.[136] This non-binding instrument aims to recommend measures and best practices to prevent, control and reduce the adverse impact of flood events, notably on the aquatic environment.

Responsibilities of local authorities

Water conservation programmes and measures need to be initiated at the local level, where local authorities should:

- regulate the activities that may have an impact on water resources and ecosystems;
- designate protected areas where necessary;
- adopt specific plans and strategies, including land-use plans, aiming at preserving certain areas;
- develop guidelines for ecosystem-based management practice in water planning, management and wise use of resources, which need to be disseminated and substantiated with regional and local examples of best practices; and
- undertake education campaigns, and ensure public participation in decision-making processes to raise public awareness of the importance of protecting, preserving and conserving water resources.

(d) further develop a coordinated or joint system of measures, activities and early warning for transboundary impacts on the water regime of flooding and accidental water pollution, as well as co-operate in preventing and reducing the damages and giving assistance in restoration works.

In this provision, cooperation among interested countries is envisaged to prevent, respond and remediate trans-boundary damage to water resources.

Main concepts

Strengthening international cooperation aimed at securing sustainable management of shared river basins, preparation of risk analyses and flood forecasts at the transnational level, improving the coordination of the existing forms of assistance, and exchange of information are fundamental components of transboundary cooperation between riparian countries. **Cooperation** can take various forms: besides coordinated activities and joint policies and action programmes, including land-use planning, neighbouring states can develop agreements and even establish joint commissions.

Since potential conflicts regarding the use of water can arise, equitable utilisation on a multilateral basis needs to be supported by appropriate institutions and coordinated policies. As for the Carpathian countries, great importance should be given to the Danube River system and the International Commission for the Protection of the Danube River (ICPDR).[137]

The progress has been achieved by existing river commissions in developing joint strategies involving aspects of regional planning and land use regulation with an aim to prevent and respond to floods. An interesting example is the recently established International Sava River Basin Commission,[138] under which a special Protocol on Floods was developed. The objective of international cooperation is to develop joint documents specifying strategies and action programmes aimed at improving protection against floods.

The advantages of cooperation for water resources management are numerous. Among other benefits, it:

- allows knowledge about the water management systems from the neighbouring countries to be utilised as a basis for the harmonisation of the legal framework and measures undertaken by the parties;
- develops professional relations between similar regional bodies in charge of transboundary water management;
- contributes to decreasing water pollution at the regional level;
- identifies and develops studies/projects for transboundary water pollution reduction;
- ensures the legal basis and institutional framework for the achievement of the Water Framework Directive objectives within the transboundary water basins;[139] and
- provides the framework for harmonising national interests in border areas.

Attention is focused on the prevention of two major categories of possible accidents: **flooding** and **accidental transboundary water pollution**. Since flooding is an environmental threat that is widespread in all the Carpathian countries, due to atmospheric conditions worsened by deep forests, exploitation and unsustainable uses of watercourses, the adoption of joint flood prevention measures is crucial.

Regarding transboundary impacts of accidental water pollution, the **no harm principle**[140] applies. According to this principle, a state is responsible for actions within its own borders whose effects cross over those borders and harm another state. Referred specifically to water resources, it means that a state should not cause serious environmental harm to the territory and to the water resources of another state,[141] and requires that states take adequate steps to control and regulate the sources of transboundary pollution within their territory or subject to their jurisdiction.

BOX 16

Project in the Tisza River Basin, Hungary and Romania

The project Transboundary River Basin Management of the Koros/Crisuri River aims to enable Romanian and Hungarian authorities to implement a sustainable development policy in this transboundary river basin, using balanced management of water resources, meeting the users' needs and preserving ecosystems and the aquatic environment. It addresses issues like sustainable development and integrated management of natural resources, flooding and water pollution.

The project includes application of the European Water Framework Directive. It involves the national administrations (Ministry of Environment, regional directorates), and the International Office for Water is in charge of support to the project.

Source: www.icpdr.org/kocris

In order to be ready to face these dramatic situations and quickly intervene, the parties shall collaborate in early warning, notification and dissemination of information to all potentially affected countries by transboundary accidental damage. **Early warning** is a procedure that facilitates, when a natural disaster or an accidental water pollution event with a trans-boundary impact occurs, the involved states in reporting to the other states the accident's time, location and other data essential for assessing the situation.[142]

Where transboundary damage has occurred, **restoration**[143] is necessary. It is usually linked to the obligation of the state to give reparation for the damage on a case-by-case basis, and takes different forms, such as restitution, re-establishing the situation before the damage, compensation of the damage (connected to the polluter pays principle[144]), etc. However, in this provision attention is more focused on the assistance that states can provide to each other to remedy harmful conditions and emergency situations than on the reparation itself.

Main relevant international agreements, legal instruments and initiatives

General legal principles for the management of transboundary water are currently defined by the **Helsinki Water Convention**, which obliges parties to prevent, control and reduce water pollution from point and non-point sources. The convention also includes provisions for monitoring, research and development, consultations, warning and alarm systems, mutual assistance, institutional arrangements, and the exchange and protection of information, as well as public access to information.

The **United Nations Convention on the Non-navigational Uses of International Watercourses** encourages cooperation between watercourse states and requires them to consider the establishment of joint mechanisms or commissions to facilitate cooperation on relevant measures and procedures, based on experience gained in various regions.

The **Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters**, still not in force, encourages companies to take measures to prevent damage they will henceforth be liable for, and thus help to prevent accidents from happening in the first place and limit their adverse effects on people and the environment.

Article 5 of the **Ramsar Convention** concerns obligations of contracting parties over the shared wetlands, and states that the contracting parties shall consult with each other about implementing obligations arising from the Convention, especially in the case of a wetland extending over the territories of more than one contracting party or where a water system is shared by contracting parties. They shall at the same time endeavour to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna.

In the **Convention on Environmental Impact Assessment in a Trans-boundary Context** (Espoo, 1991), parties are urged to undertake, where appropriate, joint environmental impact assessment, development of joint monitoring programmes, inter-calibration of monitoring devices and harmonisation of methodologies with a view to rendering the data and information obtained compatible.

These principles have been also included in the **2000/60/EC directive** establishing a framework for Community action in the field of water policy, where they are further developed and analysed in order to be implemented in the European Union.

Responsibilities of local authorities

National and local authorities should develop cooperation measures between river basin management units, even with a transboundary perspective. Such cooperation could be based on:

- the harmonisation of river basin strategies and action plans;
- the development of a joint environmental impact assessment;
- the adoption of joint research and monitoring programmes;
- the inter-calibration of monitoring devices and the harmonisation of methodologies, in order to gather homogenous data and information; and
- systematic dissemination of information and knowledge of environmental problems and solutions.

Regional emergency response plans in case of accidental water pollution and floods should also be developed.

Linkages with other articles of the Convention

Some provisions of the Carpathian Convention regulating other fields of the environment recall issues related to water management.

Articles 3 and 5: Article 6 makes a direct reference to land-use planning since the river basin is a dynamic system in which there are many interactions between land and water bodies.

Article 4: The requirement for conservation, sustainable use and restoration of biological and landscape diversity includes the types of biological and landscape diversity that characterise water and river basins.

Article 7: Agriculture and forestry are closely linked to water management and flood prevention. Furthermore, agriculture has major impacts on the quality of water and is a source of pollution (pesticides, etc).

Article 10: Industry and energy activities represent a risk of pollution for transboundary water resources.

Article 12: EIA and SEA, as well as early warning and monitoring system, are crucial in the implementation of article 6.

Chapter F
Article 7

Article 7 – **Sustainable agriculture and forestry**

1. **The Parties shall maintain the management of land traditionally cultivated in a sustainable manner, and take appropriate measures in designing and implementing their agricultural policies, taking into account the need of the protection of mountain ecosystems and landscapes, the importance of biological diversity, and the specific conditions of mountains as less favoured areas.**
2. **The Parties shall pursue policies aiming at developing and designing appropriate instruments, such as the crucially important agri-environmental programs in the Carpathians, enhancing integration of environmental concerns into agricultural policies and land management plans, while taking into account the high ecological importance of Carpathian mountain ecosystems, such as natural and semi-natural grasslands, as part of the ecological networks, landscapes and traditional land-use.**
3. **The Parties shall pursue policies aiming at promoting and supporting the use of instruments and programs, compatible with internationally agreed principles of sustainable forest management.**
4. **The Parties shall apply sustainable mountain forest management practices in the Carpathians, taking into account the multiple functions of forests, the high ecological importance of the Carpathian mountain ecosystems, as well as the less favourable conditions in mountain forests.**
5. **The Parties shall pursue policies aiming at designating protected areas in natural, especially virgin forests in sufficient size and number, with the purpose to restrict or adapt their use according to the objectives of conservation to be achieved.**
6. **The Parties shall promote practice of environmentally sound agricultural and forestry measures assuring appropriate retention of precipitation in the mountains with a view to better prevent flooding and increase safety of life and assets.**

Mountain agriculture has specificities and some inherent constraints due to geographical isolation, difficult climatic conditions and fragile ecosystems rendering production, marketing and development more difficult.[145] Agriculture and forestry are the most traditional occupational activities in the Carpathians, shaping the landscape of the area and forming some of the most significant elements of the cultural traditions of the region. During the communist period, some of the Carpathian countries faced collectivisation, where agricultural land was managed by huge state farms or cooperative farms, whereas in others countries private ownership was kept with regards to agricultural lands (e.g. Poland). As the Center for International Studies and Research (CERI) report on the Status of the Carpathians emphasised, this process "preserved marginal rural areas from the agricultural intensification which was devastating the nature of many parts of Europe."[146]

Similarly, forests were owned and managed by the state in the second half of the 20th century. At the beginning of the 1990s, most of the Carpathian countries changed the ownership structure of forest land by recognising private ownership rights. Re-privatisation introduced new problems in sustainable forest management such as the lack of forestry skills of the new owners and the need for new incentives to ensure that economic self-interest of the owners takes into account conservation.

This article of the Convention is extremely important as it focuses on two of the main aspects of economic and cultural life of the Carpathians. It requires the parties to pursue policies aimed at sustainable agriculture and sustainable forest management. The

detailed requirements of the article are analysed paragraph by paragraph below.

1. The Parties shall maintain the management of land traditionally cultivated in a sustainable manner, and take appropriate measures in designing and implementing their agricultural policies, taking into account the need of the protection of mountain ecosystems and landscapes, the importance of biological diversity, and the specific conditions of mountains as less favoured areas.

This provision is complex and must be read together with the second paragraph of this article. The provision defines two main obligations:

- maintaining the management of land traditionally cultivated in a sustainable manner; and
- taking appropriate measures in designing and implementing agricultural policies that take into account several factors.

Main concepts

The term **sustainable land management** is not limited to agriculture but applies to all other functions that land could fulfil. For more explanation of this concept, see Chapter I.C of the Handbook.

The terminology **land traditionally cultivated in a sustainable manner** may raise some difficulties in interpretation. A similar term used in the literature is **sustainable agriculture**. There is no universal definition of this term, but most of the definitions include the following elements as characteristics of sustainable agriculture: ecologically sound, economically viable, socially just, culturally appropriate, human, and based on a holistic scientific approach. The European Union adopts a similar approach, and according to DG Agriculture and Regional Development achieving sustainability, means meeting three challenges:

- an economic challenge (by strengthening the viability and competitiveness of the agricultural sector);
- a social challenge (by improving the living conditions and economic opportunities in rural areas); and
- an ecological challenge (by promoting good environmental practices as well as the provision of services linked to the maintenance of habitats, biodiversity and landscape).

Sustainable agricultural production must also reflect the concerns of consumers, particularly as regards quality, safety and traditional/organic production methods.[146]

The provision requires that lands that are already cultivated in a sustainable manner should continue to be managed this way. Implicit in the text is the assumption that traditional agricultural methods used in the Carpathian region ensure sustainability. In many cases this is apparently true. For example, the three-field system — the traditional system of rotating between autumn-sown grain, spring-sown grain and a fallow period of grazing — has been successfully used in Central Europe for over 1,000 years without leading to any apparent exhaustion or destruction of soils,[147] but additional pressures from growth and climate change may affect the equation for some forms of traditional agriculture. The text opens the door for appli-

BOX 17

EU Biodiversity Action Plan for Agriculture

The Biodiversity Action Plan for Agriculture, a Common Agricultural Policy (CAP) instrument adopted in 2001, provides the framework for integrating biodiversity concerns into EU agricultural policy.

The priorities of the action plan are:

- the promotion and support of environmentally-friendly farming practices and systems that benefit biodiversity directly or indirectly;
- the support of sustainable farming activities in biodiversity-rich areas;
- the maintenance and enhancement of good ecological infrastructure; and
- the promotion of actions to conserve local or threatened livestock breeds or plant varieties.

All of these priorities are supported by research, training and education actions.

Source: http://europa.eu/scadplus/leg/en/lvb/l28024.htm

cation of a "sustainability test" that can be applied to determine whether particular traditional agricultural methods deserve to be maintained.

The need to protect **mountain ecosystems and landscapes** derives from the fact that mountains include fragile ecosystems that are home to rich **biodiversity**,[148] great reserves of virgin forests and some of Europe's cleanest waters. Intensive agriculture may pose a threat to these, and therefore agricultural policies should be developed and implemented with a view to integrating nature conservation concerns.

Biodiversity conservation greatly depends on the efficient application of measures within the Common Agricultural Policy (CAP), notably agri-environmental measures and compensatory allowances for **less favoured areas** (LFA).

At the European Union level, mountain areas are one of the categories of agricultural LFAs. Set up in 1975, the less favoured areas annual subsidy scheme designed by member states provides "compensatory allowances" to farmers in mountainous areas or in other areas where the physical landscape results in higher production costs.[149] In order to be eligible for financial support under the European Agricultural Fund for Rural Development,[150] mountain areas should be characterised by a considerable limitation of the possibilities for using the land and an appreciable increase in the cost of working it due to:

- the existence, because of altitude, of very difficult climatic conditions, the effect of which is substantially to shorten the growing season; and
- at a lower altitude, the presence over the greater part of the area in question of slopes too steep for the use of machinery or requiring the use of very expensive special equipment, or a combination of these two factors, where the handicap resulting from each taken separately is less acute but the combination of the two gives rise to an equivalent handicap.[151]

Most of the Carpathian countries have in place programmes aiming to provide financial support and incentives to farmers in less favoured areas, and a significant part of the Carpathian region in these countries may be classified as LFAs. For example, in Romania, the Law on Mountain Regions (347/2004) provides for specific measures aimed at providing support to agriculture in mountain areas: compensatory payments, measures for soil protection, contractual agreements for the use of grasslands located inside protected areas by the local population, and incentives for further development of mountain agriculture education programmes as part of the national education system.

Main relevant international agreements, legal instruments and initiatives

The **Alpine Convention** includes a similar provision dealing with land management and agriculture. Article 2 requires the contracting parties to take appropriate measures in the area of mountain farming, with the overall objective: "to maintain the management of land traditionally cultivated by man and to preserve and promote a system of farming which suits local conditions and is environmentally compatible, taking into account the less favourable economic conditions."

A specific **Protocol on Mountain Agriculture** has been adopted under the Alpine Convention which promotes sustainable mountain farming and tries to optimise all functions of agriculture in mountain regions. It aims at ensuring conservation or the regeneration of traditional features of the rural environment. Special measures for the conservation of traditional farms and rural architecture are required, as well as further use of traditional building materials and methods. The use and increase of extensive farming best suited to the natural features of the area are favoured and the local farming products typical of the area are preserved. Animal farming, including domestic animal husbandry, is to be maintained, as well as necessary agriculture, farming and forestry facilities and premises.[152]

A recent FAO initiative, the **Sustainable Agriculture and Rural Development (SARD) Initiative** is a multi-stakeholder umbrella framework designed to support the transition to sustainable agriculture and rural development and to strengthen participation in programme and policy development. The initiative helps to achieve SARD by supporting pilot efforts and building the capacity of rural communities, disadvantaged groups and other stakeholders to improve access to resources (e.g. genetic, technological, land, water, markets and information), promote good practices, and foster fairer conditions of employment in agriculture.[153]

One element of this initiative focuses on SARD in mountain regions, identifying the many challenges and calling for coherent policies, instruments and programmes. In the Carpathian region, national country assessments of the strengths and weaknesses of mountain policies inspired by SARD were carried out in Romania, Slovakia and Ukraine. The assessments revealed that agriculture is the dominant form of land-use in the Carpathian Mountains and that inappropriate management practices, such as intensive agriculture and overgrazing, represent a great threat accentuated by the absence of political commitment.[154]

Responsibilities of local authorities

The obligation regarding the design of agricultural policies falls mostly within the responsibility of national level authorities, but judging by the level of decentralisation local authorities surely play a role in this process, and they will also need to develop local level planning documents promoting the principles of sustainable agriculture.

In reality local authorities play a significant role in the implementation of sustainable agriculture policies. Responsibilities that local authorities may have with regards to promoting and implementing sustainable agriculture practices are:

- promotion of sustainable land management, particularly traditional, extensive and mixed farming practices through incentives and dissemination of information — incentives may include either loans with a low interest rate, subventions, compensatory payments, etc.;
- adoption of local mountain agricultural policies that incorporate the specific nature of mountain ecosystems and landscapes, conservation of biological diversity and specific conditions for mountains as less favoured areas;
- integration of biodiversity concerns into appropriate systems of certification for agricultural practices and labelling of products, as appropriate, paying particular attention to cost-effectiveness, transparency and the quality of environmental information provided; and
- development of incentive measures to prevent land abandonment, by providing support to small farming initiatives.

Furthermore, the Carpathian countries that are EU member states have in place a system ensuring the allotment of various funds supporting agriculture in mountain areas through local authorities.

Transboundary cooperation is one of the main elements of effective implementation of this provision. Cooperation depends on the exchange of experience and information in training and education and in the use of legal instruments, in order to support national administrations in the development and implementation of policies for sustainable agriculture.

Agenda 21 recommends that states cooperate actively to: "undertake surveys and research to establish baseline information on the status of natural resources relating to agricultural production and planning in order to assess the impacts of various uses on these resources, and develop methodologies and tools of analysis, such as environmental accounting."

This can be combined with land-use and spatial planning, two notions explained in Chapter I.C of the Handbook.

BOX 18

Quality projects in Valle D'Aosta, Italy

In order to regulate and improve agricultural production, the region of Valle D'Aosta adopted several projects and programmes, such as the institution of the Office of Vital Statistics for Livestock and the project Fontina Quality. This project, developed in 2003 and lasting six years, aims at improving the quality of dairy farming, at raising the salaries of producers and at developing quality systems. In accordance with this project another project has been developed: the Project Milk Quality System, which includes incentives for producers of milk and milk products and training opportunities. It even offers awards for the best producers according to quality.

BOX 19

Sustainable agricultural practices and local authorities in Romania

The Romanian legislative framework on mountain areas (i.e. Sustainable Development Strategy for Mountain regions and the Law on Mountains) requires the establishment, at local level, of county committees for mountain regions including representatives of the local authorities and the local representatives of ministries. These committees coordinate and implement at local level the projects focused on sustainable development of mountain regions, including also sustainable agriculture activities. Moreover, the Law on Mountain Regions obliges the local council to provide adequate space (office, or for storage, production, etc.) to the association of local agricultural producers.

2. The Parties shall pursue policies aiming at developing and designing appropriate instruments, such as the crucially important agri-environmental programs in the Carpathians, enhancing integration of environmental concerns into agricultural policies and land management plans, while taking into account the high ecological importance of Carpathian mountain ecosystems, such as natural and semi-natural grasslands, as part of the ecological networks, landscapes and traditional land-use.

The main goal of this provision is the integration of environmental concerns into agricultural policies and land management plans.

Main concepts

The importance of integrating environmental considerations into sectoral policies such as agricultural policy has been highlighted on the EU level. Reaching the right balance between competitive agricultural production and respect for nature and the environment is an objective of the Community, and it implies the active pursuit of coherence between agricultural and environmental policy.[155]

Environmental integration can be achieved through the definition of appropriate measures which aim at changing specific agricultural practices to make them more environmentally sound, such as agri-environmental programmes, described by the convention as crucial.

Agri-environment measures are designed to encourage farmers to protect and enhance the environment on their farmland. It provides for payments to farmers carrying out agri-environmental commitments that involve more than the application of usual good farming practice. Farmers sign a contract with the administration and are paid for the additional cost of implementing such commitments and for any losses (e.g. due to reduced production). Agri-environment payments are co-financed by the EU and the member states.

Agri-environment measures may be designed at national, regional or local level so that they can be adapted to particular farming systems and environmental conditions, which vary greatly throughout the EU. This makes agri-environment a potentially precise tool for achieving environmental goals. These measures are diverse, but they have two broad objectives: reducing environmental risks associated with modern farming, and preserving nature and cultivated landscapes.

Considering the Carpathian countries, some factors need to be taken into account: the high ecological importance of Carpathian mountain ecosystems, especially natural and semi-natural grasslands, which are part of the ecological networks, landscapes and traditional land-use. All of these notions are explained under several articles of the Carpathian Convention.[156]

Grassland can be defined as areas dominated by grasses or grass-like plants with few woody plants.[157] Grassland habitats feature the largest variety of species and ecosystems. Meadows are the most outstanding feature of the Carpathians, and as species-rich grasslands, they are part of the biological and landscape diversity of the mountains.

Main relevant international agreements, legal instruments and initiatives

Agenda 21 serves as a basis for drafting and implementing multilateral environmental agreements adopted since 1992. Its Chapter 14 focuses on the promotion of sustainable agriculture and rural development and identifies tools to reach this goal: "The priority must be on maintaining and improving the capacity of the higher

BOX 20

History of agri-environmental policies at EU level

In the 1980s some European Union member states began to develop agri-environmental policies on their own initiative. In 1985, the European Community took up these measures in Article 19 of the Agricultural Structures Regulation, but it remained optional for member states.

Since the reform of the Common Agricultural Policy (CAP) in the European Union, agri-environmental programmes have become more and more important in European agriculture.

Indeed, in 1992, member states were required to introduce agri-environment measures throughout their territory. In 1999, the provisions of the Agri-Environment Regulation were incorporated into the Rural Development Regulation as part of the Agenda 2000 CAP reform. The aim of their incorporation was to help achieve coherence within rural development plans.

Source: http://ec.europa.eu/agriculture/publi/reports/agrienv/rep_en.pdf

potential agricultural lands to support an expanding population. However, conserving and rehabilitating the natural resources on lower potential lands in order to maintain sustainable man/land ratios is also necessary. The main tools of Sustainable Agriculture and Rural Development are policy and agrarian reform, participation, income diversification, land conservation and improved management of inputs."[158]

On the regional level, the need for an integrative approach was reaffirmed at the High-Level Pan-European Conference on Agriculture and Biodiversity: Towards Integrating Biological and Landscape Diversity for Sustainable Agriculture in Europe, which took place in 2002 in Paris. The 2nd recommendation of the **Final Declaration on the Conservation and Sustainable Use of Biological and Landscape Diversity in the Framework of Agricultural Policies and Practices** states: "We note and support efforts to further integrate biodiversity concerns into agricultural, rural and other policies which aim to minimise undesirable impacts, support positive results, lead to biodiversity-sensitive farming and promote a more coherent development of the countryside, including its economic and social aspects."[159]

Responsibilities of local authorities

Authorities are encouraged to adopt local agricultural-environmental plans and other strategic documents in order to have a systematic and programmed approach to integration of environmental concerns into agricultural practices. The adoption of land management plans that promote sustainable agricultural and environmental considerations is also important.

Furthermore, other obligations can follow from this provision:

- to increase local awareness of the importance of conservation of mountain ecosystems, grasslands, ecological networks, etc.;
- to integrate biodiversity concerns into appropriate systems for certification or labelling of environmentally friendly agricultural practices or products;
- to conduct SEA and EIA of agricultural and rural development plans, programmes and projects and to promote participation of the local public in planning and decision making;
- to promote alternative practices, including organic farm management systems and sustainable agricultural measures; and

BOX 21

Nature conservation and agri-environmental schemes in Slovakia

In the framework of the SAPARD regulation (EC 1268/99), five pilot areas for agri-environmental schemes, including maintenance of the landscape, have been funded and carried out in Slovakia.

The basic structure of the Slovakian Agri-Environmental Program is as follows:

- Basic schemes: the "preliminary package without entitlement to compensation payments"; measures promoting good agricultural practice, as currently required by the laws regulating the conservation of nature, landscape, water and soil.
- General agri-environmental schemes: compensation payments for prescribed land management; the basic scheme (above) is connected to a general agri-environmental scheme for the conservation of nature and landscape. It is differentiated according to the type of land use with different packages for arable land, permanent grass cover, and for permanent cultures.
- Specific agri-environmental schemes: compensation payments for the conservation of significantly important ecosystems; e.g. a scheme for arable land with biotopes of non-forest woody vegetation, a scheme for marshy and moist meadows, and a scheme for semi-dry and dry soil cover using grass.
- Complementary schemes: compensation payments for environmental/landscape-sensitive farming; this support is available for certified production which is governed by special regulations, e.g. integrated production, organic-production, or for income forgone due to obeying certain limits in low-input systems (limited nitrogen input or stocking/grazing density limits to stabilise grassland biodiversity and/or prevent soil erosion).

Source: Integrating Natura 2000, Rural Development and Agri-Environmental Programmes in Central Europe; Proceedings of the conference held at Goniadz, Poland, July 2-4, 2003.
www.iucn-ce.org/documents/natura2000/integrating_natura_2000_rural_development_and_agri-environmental_programmes.pdf

- to assess the effectiveness of agri-environmental programmes.

Transboundary cooperation is useful as it allows the sharing of information and the exchange of policies regarding agriculture and environment. Common programmes can also be developed at the regional level, and cooperation can be established for monitoring agricultural biological diversity, or making use of appropriate financial instruments to promote biodiversity-friendly agriculture.

3. The Parties shall pursue policies aiming at promoting and supporting the use of instruments and programs, compatible with internationally agreed principles of sustainable forest management.

This paragraph requires parties to support the use of forest management instruments and programmes in accordance with the sustainable forest management principles formulated at the international level.

Main concepts

A universally agreed definition for **sustainable forest management** (SFM) does not exist. However, the Ministerial Conference on the Protection of Forests in Europe developed, in resolution H1, a definition which has since been adopted by the Food and Agriculture Organization (FAO). SFM is defined as "the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems."[160]

Based on the principles of sustainable development, SFM aims to ensure that the goods and services derived from the forest meet present-day needs while at the same time securing their continued availability and contribution to long-term development. In its broadest sense, forest management encompasses the administrative, legal, technical, economic, social and environmental aspects of the conservation and use of forests. It implies various degrees of deliberate human intervention, ranging from actions aimed at safeguarding and maintaining the forest ecosystem and its functions.

Several **tools** to implement this concept have been developed at global, regional and national levels and represent good examples of what can be supported by the Carpathian countries, including forest certification, criteria and indicators, and national forest programmes.

Forest certification was introduced in the early 1990s to address concerns of deforestation and forest degradation and to promote the maintenance of biological diversity, especially in the tropics. Initially pushed by environmental groups, it quickly evolved as a potential instrument to promote sustainable forest management. Forest certification is a system of forest inspection, as well as a means of tracking timber and paper through a "chain of custody" — following the raw material through to the finished product. This has led to greater recognition of the importance of environmentally and socially sound wood products and has engaged producers, consumers and retailers in a positive effort to help clean up the timber industry.

Criteria and indicators (C&I) are policy instruments which allow countries to collect, store and disseminate reliable and scientifically based information on forests, and also provide an essential reference basis for forest certification standards, which set performance targets to be applied on a defined area. C&I sets are mainly developed for national level authorities to describe and monitor status and trends in forests and forest management.

Although these criteria and indicators are always progressing and differ from one initiative to another, seven thematic areas are globally agreed:[161]

- extent of forest resources;
- biological diversity;
- forest health and vitality;
- protective functions of forests;
- productive functions of forests;
- socio-economic functions; and
- legal policy and institutional framework.

The **national forest programmes** (NFP) compose the framework for all development of forest policy at the national and/or sub-national level. The Forestry Programme of the Food and Agriculture Organization defines an NFP as designating "the wide range of approaches to the process of planning, programming and implementation of forest activities in a country to be applied at national and sub-national levels, based on a common set of guiding principles. The purpose of the national forest programmes is to establish a workable social and political framework for the conservation, management and sustainable development of all types of forests, which in turn will increase the effectiveness and efficiency of public and private operational and funding commitments. National forest programmes require a broad inter-sectoral approach at all stages, including the formulation of policies, strategies and courses of action, as well as their implementation, monitoring and evaluation."[162]

According to the FAO, the efficiency and effectiveness of national forests programmes are based on the application of basic principles which contribute significantly to the achievement of sustainable forestry development:

- sustainability of forest development;
- national sovereignty and country leadership;
- partnership;
- participation;
- holistic and inter-sectoral approach;
- a long-term iterative process;
- capacity building;
- policy and institutional reforms;
- consistency with the national policy framework and global initiatives;
- raising awareness;
- national policy commitment; and
- international commitment.[163]

Main relevant international agreements, legal instruments and initiatives

The Carpathian Convention calls for the use of internationally agreed principles of sustainable forest management. All of the following principles and guidelines can be used while promoting the implementation of SFM compatible instruments and programmes in the Carpathians.

The **Forest Principles** were established by the Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests in Annex III to the Report of the United Nations Conference on Environment and Development, 1992.[164] The guiding objective of these principles is to contribute to the management, conservation and sustainable development of forests and to provide for their multiple and complementary functions and uses.

The United Nations Commission on Sustainable Development (CSD) established the **Intergovernmental Panel on Forests** (IPF) and its successor, the **Intergovernmental Forum on Forests** (IFF), to encourage international consensus on key issues related to forests. The IPF/IFF processes resulted in a comprehensive set of 270 **Proposals for Action** for the promotion of the management, conservation and sustainable development of all types of forests, which received worldwide recognition and endorsement. They provide governments, international organisations, private sector entities and other stakeholders guidance on how to further develop, implement and coordinate national and international policies on sustainable forest management. The IPF/IFF proposals for action address SFM through a cross-sectoral approach, recommending notably improving cooperation in support of the management, conservation and sustainable development of all types of forests, and urging countries to use national forest programmes, integrate suitable criteria and indicators, and establish sound national coordination mechanisms.[165]

The International Tropical Timber Organization (ITTO)[166] also established a set of principles that comprise an international reference standard for the development of more specific national **guidelines for sustainable management of natural tropical forests**.[167] These principles focus on tropical forests but can be adapted to European forests. For instance, principle 12 calls for the establishment of proper planning at operational levels to reduce economic environmental costs and ensure long-term sustainable forest management.

BOX 22

Forest labels in Switzerland

In order to make best use of forest resources and to maintain the forest's ecological, economic and social functions, Swiss forest management has pursued the principle of sustainability for over a hundred years.

The recent introduction of forest and timber certificates is an element of this strategy. Two quality labels for Swiss timber guarantee the ecological and socially compatible use of the forest:

- the international FSC (Forest Stewardship Council) standard; and
- the national Q label, developed as an alternative to the FSC label, that not only guarantees sustainable forest management and environmentally friendly timber processing, but also the Swiss origin of the certified timber.

The forestry profession and timber industries voluntarily comply with these label standards to attract an ecologically aware clientele. By summer 2004, approximately 370,000 hectares of Swiss forests were certified, which is 30 percent of the total forested area of Switzerland. Seven percent of Swiss forests are FSC-certified only, 2 percent are Q-certified, only, and 21 percent carry both labels.

Source: www.umwelt-schweiz.ch/imperia/md/content/forst_e/whe_waldholz/wald/wb_3_nutzung_e.pdf

Furthermore, the Ministerial Conference on the Protection of Forests in Europe (MCPFE), a forum for political commitment involving 44 European countries and the European Community that cooperates with international organisations, has developed a dynamic process towards the protection and sustainable management of forests.[168] At its 3rd Conference in 1998, the **Pan-European Operational Level Guidelines for Sustainable Forest Management** were adopted (Annex 2 of resolution L2).[169] These guidelines identify actions to contribute to SFM following several criteria, ranging from enhancement of forest resources to conservation of biological diversity in forest ecosystems. They are intended to translate international commitments to the level of forest management planning and practices.

Responsibilities of local authorities

A sound forest policy is essential to meet the obligations of this provision. Local authorities have an important role to play in this respect through the adoption of incentive measures to promote sustainable forest management practices, the assessment of forest management plans against criteria and indicators, and the involvement of stakeholders into development of forest policies.

Other actions at local level may include:

- preparation of and participation in technical cooperation and assistance programmes;
- promoting a balance between forest use and conservation with agriculture and land uses and other sectoral policies;
- dissemination of information on instruments and programmes compatible with internationally agreed forest principles; and
- capacity building for local stakeholders.

Moreover, better cross-sectoral integration and inter-sectoral collaboration is needed. Besides the exchange of practices and experiences, common forestry programmes and joint use of available instruments should be developed.

4. The Parties shall apply sustainable mountain forest management practices in the Carpathians, taking into account the multiple functions of forests, the high ecological importance of the Carpathian mountain ecosystems, as well as the less favourable conditions in mountain forests.

This provision requires parties to apply the SFM and other sustainable practices promoted under paragraph 3 of article 7 of the Convention to the Carpathians forests, taking into consideration the mountainous conditions of the region.

Main concepts

Forests fulfil multiple functions at the global as well as the local level:

- Forests are a great source of biodiversity; they contain many endemics and species of conservation concern.
- Forests help the natural processes of soil generation and stabilisation (they prevent erosion). In hydrological cycles, they intercept precipitation and release the moisture slowly, providing more constant water supplies and limiting flooding. Forests also aid in purifying air by fixing atmospheric carbon dioxide and moderating the greenhouse effect.
- Forests provide a wide range of goods and services: wood products (timber, woodfuel) and non-wood forest products such as fibre, food, and medicines.
- Forests contribute to the overall economy in the form of employment and income, trade and investment in the forest sector.

BOX 23

Agri-forest interventions for the production of biomass in Veneto, Italy

The Regional Law 14 of May 2, 2003 in Veneto prescribes the increase of forest surface by promoting the conversion of agricultural lands to timberlands. The objectives of this law are to provide alternative income opportunities connected with the production of renewable energy from timber biomass, to improve the quality and quantity of fauna habitats and to encourage the presence of man in these parts of the territory in order to combat land degradation.

This law is important in showing the interaction between agriculture and forests, and a possible way to solve the contrast between measures aimed at improving agriculture and measures aimed at improving forest conservation. Moreover, it focuses on renewable energy that can come from timber biomass. This is a crucial element to be taken into consideration for its environmental and economic concerns.

- Forests shape the landscape and contribute to the protection of natural and cultural heritage.
- Forests create conditions for relaxation, recreation and improvement of health.

Forests that grow in mountain areas play an important role in maintaining the stability of **mountain ecosystems** and supporting the people who live there.[170] Furthermore, forests in these regions are also considered as **less favoured areas** due to environmental restrictions on land use characteristic of mountains.

Mountain forests therefore require adequate management. Developments over the past decade have focused on progress towards sustainable forest management.[171] The concept of SFM has influenced several initiatives at various levels and has led to the development of practices in Europe such as:

- regeneration of forests[172] through reforestation programmes;
- harvesting technology and methods;[173]
- valuing mature forests as potentially creating conditions like those in old growth forests; and
- alternative silvicultural systems adapted to mountain forests.[174]

Moreover, one could also say that a part of SFM is to create ecologically complex and mature forests where they do not exist.

Main relevant international agreements, legal instruments and initiatives

The **Alpine Convention** requires parties: "to preserve, reinforce and restore the role of forests, in particular their protective role, by improving the resistance of forest ecosystems mainly by applying natural forestry techniques and preventing any utilisation detrimental to forests, taking into account the less favourable economic conditions in Alpine Region."

This provision indirectly addresses the need of SFM and is less detailed than the corresponding obligation in the Carpathian Convention. However, an additional **Protocol on Mountain Forests** was adopted in 1996 by some of the Alpine countries, where additional precise and effective actions are required from the parties, such as adoption of plans and projects for the improvement of grazing areas and the protection of fauna, recreational and economic activities, etc.

Principle 2 of the **Forest Principles** covers not only SFM requirements, but also the multiple functions of forests referred to in this paragraph of the Carpathian Convention: "Forest resources and forest lands should be sustainably managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. These needs are for forest products and services, such as wood and wood products, water, food, fodder, medicine, fuel, shelter, employment, recreation, habitats for wildlife, landscape diversity, carbon sinks and reservoirs, and for other forest products."

Responsibilities of local authorities

In the framework of this provision, local authorities should:

- compile best practices available to promote and support integrated approaches;
- increase awareness of local people and employees of institutions and industries dealing with forestry about best practices;
- adopt monitoring programmes in order to identify and respond to non-sustainable forest practices, and develop incentive measures;
- enhance interaction between scientific research and policy processes, including priority setting of research, addressing knowledge gaps and using scientific knowledge to support decision making;
- promote SFM processes through financial and technical support as well as training for institutions

BOX 24

Protected area in Poland

The Bieszczady National Park was established in 1973. It protected then only a few patches of the most valuable areas — fragments of mountain meadows and surrounding forest. The park was enlarged several times: in 1989 and in 1991 the park obtained a large area of natural forests.

The park comprises 80 percent of forest areas and protects a part of Europe's largest primeval and natural beech forest complex. Since 1992, the Bieszczady National Park has been a part of the international biosphere reserve called "Eastern Carpathian."

Source: www.mos.gov.pl/kzpn/en/bies_gb.htm

BOX 25

Achievements in implementing sustainable forest management in Austria

The management, protection and sustainable development of Austrian forests is based on a well established legal and institutional framework. In Austria, sustainable forest management is considered as an integrative approach towards ensuring economic viability, ecological richness and socio-cultural values of forests in the long term.

The driving force to achieve sustainable forest management chosen by Austria is the concept of close-to-nature silviculture. Besides quantitative improvements during the last decade, qualitative conditions of forests can be recorded as a consequence of close-to-nature management applied on an enlarged scale. For example, the proportion of the total wooded area being left to natural regeneration increased to over 50 percent.

Austria's Report on the Implementation of the Proposals for Action of the IPF and the IFF identifies several factors and steps to achieve SFM.

Factors in support of sustainable forest management:

- well established legal, institutional and financial framework;
- special education, training and research focusing on a holistic sustainability concept;
- applied traditional forest related knowledge, transferred in forest owning families over generations;
- comparatively high productivity of forest stands; and
- high economic, ecological and socio-cultural values of forests due to densely populated mountainous terrain, important tourism industry depending on intact landscapes and export oriented timber industry.

Factors impeding sustainable forest management:

- small-scale, fragmented forest ownership structure (around 171,000 forest owners, average size of a forest holding is 19 ha);
- two thirds of Austria is mountainous terrain;
- high pressure on forest land and ecosystems by tourism and recreation activities;
- decreasing economic viability of wood production in connection with competition and substitution of forest based products; and
- pressure on forest ecosystems through browsing, grazing and air pollution.

Steps taken to improve sustainable forest management

- support of forest owner cooperation;
- subsidies especially dedicated to enhance the multiple benefits of forests;
- special financial and technical programmes to increase and restore the protective function of mountain forest;
- amendment of the Austrian Forest Law taking into account international agreements;
- initiation of an NFP process;
- integration of forest subsidies in the rural development programme;
- reorganisation of forest institutions;
- transforming the state owned forest into a shareholder company;
- establishing a network of natural forest reserves;
- support activities in favour of improving environmental conditions;
- extension of the cooperation between the forest management and the wood Industry;
- training and further education with emphasis on ecological elements; and
- increased international activities.

Source: www.un.org/esa/forests/pdf/national_reports/unff2/report_2002_austria.pdf

dealing with forest management, forest owners, wood industry, and other stakeholders; and

- develop forest plans that designate areas in which growth conditions can be restored through careful selective harvests and unconventional forest practices, such as leaving down woody debris on the forest floor after harvest and leaving dead trees standing.

The conservation and sustainable use of mountain forests requires joint involvement and efforts of a multitude of stakeholders. This calls for new approaches and strong cooperation between sectors, such as biodiversity and forestry, particularly at the regional and national levels. Neighbouring countries can develop joint programmes for SFM that may include technical cooperation on sustainable forest management practices and adoption of common mechanisms and policies.

5. The Parties shall pursue policies aiming at designating protected areas in natural, especially virgin forests in sufficient size and number, with the purpose to restrict or adapt their use according to the objectives of conservation to be achieved.

Since sustainable management itself is not sufficient to conserve a forest, the Convention calls for the designation of natural protected areas to ensure conservation, and it places special emphasis on virgin forests. Just dividing the forest into production forests that are managed using sustainable forest management practices and virgin forests that are protected misses an opportunity to create managed forests that have many of the attributes of virgin old growth forests.

Main concepts

Virgin forests are original in their structure and dynamics and are developed untouched by humans under natural conditions. They form specific types of the natural forest community, and their complex vertical and horizontal structures enable virgin forests to exist continuously and without limit in time.[175] The Convention includes additional language applicable only to virgin forests to ensure that they are designated in "sufficient" size and number for adequate protection.

The Convention requires designation of **protected areas**[176] devoted to forest. Altogether, Europe's protected forest areas cover about 127 million hectares (12 percent of Europe's forests).[177]

Because forests fulfill an enormous range of functions they require many different management regimes. The 4th Ministerial Conference (Vienna, 2003) adopted the Assessment Guidelines for Protected and Protective Forest and other Wooded Land in Europe,[178] which aim at giving a comprehensive picture of protected forest and other wooded land in Europe by providing data based on comparable terms and definitions. Protected European forests are grouped according to their main management objectives:

1. Some protected forest areas in Europe are designated to conserve forest biological diversity without direct human intervention (MCPFE class 1.1).
2. Some protected forests designated for the conservation of forest biological diversity are managed allowing a minimum of human intervention (MCPFE class 1.2). These characteristics often apply to core zones of national parks. The largest areas of these protected forests are located in northern and eastern Europe.
3. Most of the protected forest areas are actively managed to conserve biological diversity (MCPFE class 1.3), covering 79 percent of Europe's protected forests.

The several types of protected areas allow management regimes adapted to the objectives of conservation, restoration or use of forests (see box 16).

Main relevant international agreements, legal instruments and initiatives

Several international and regional agreements encourage governments to take conservation measures for forests.

Article 8(a) of the **Convention on Biological Diversity** requires parties to "establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity." As forests are ecosystems with high biological diversity concentration, this provision is of particular importance.

Article 6 of the **ASEAN Agreement on the Conservation of Nature and Natural Resources**, adopted 20 years ago, already recognised the necessity to establish forest protected zones. Parties are required to take "all necessary measures to ensure the conservation of the vegetation cover and in particular of the forest cover on lands under their jurisdiction." They shall, in particular, endeavour to "set aside areas as forest reserves, *inter alia*, with a view to conserve the natural forest genetic resources."

As previously noted, the **Mountain Forests Protocol of the Alpine Convention** requires contracting parties to establish a sufficient number of sufficiently large natural forest reservations or conservation areas.

Responsibilities of local authorities

Local authorities have a key role to play in the designation of protected areas and may:

- identify valuable areas and adopt necessary policies;
- develop planning for protected areas allocation;
- review policies and plans when the necessity of new protected areas arises;
- pay special attention to virgin forests;
- adopt preventive measures against natural disasters (forest fires, floods);
- monitor human activity in protected areas and take appropriate enforcement measures; and
- map, study and monitor forest biodiversity both inside and outside protected areas.

In the framework of the Carpathian region, uniformed policies and common management of border protected areas are decisive. Furthermore, transnational cooperation, including exchange of data, methodologies and experiences,[179] is crucial for the long-term and efficient protection of forest areas.

6. The Parties shall promote practice of environmentally sound agricultural and forestry measures assuring appropriate retention of precipitation in the mountains with a view to better prevent flooding and increase safety of life and assets.

This paragraph deals with hydrological processes and the relationship between forestry/agricultural practices and hydrological risks. Human intervention such as land use changes, river regulation, reduction of the natural retention area and intense agriculture contributes to increasing flood surges. Catastrophic floods endanger lives and cause human tragedy as well as heavy economic losses.

According to the Carpathians Convention, the use of environmentally sound agricultural and forestry practices required in the other provisions of this article of the Convention should also aim to contribute to the prevention of floods.

Main concepts

Flood prevention is meant to reduce the vulnerability of human beings and goods exposed to flood risk. Modern approaches to flood prevention distinguish between periodic natural flooding and severe or catastrophic flooding that is often made more severe by channelisation and other flood prevention measures of the past.

Retention of precipitation water in land surface reservoirs, soils and the biosphere leads to maintenance of the integrity of the hydrologic cycle and to protection against severe floods. Indeed, plants and soil can intercept and retain water.

In many respects the interests of **agricultural users** are contradictory to the requirements of flood prevention (for example: the cultivation of retention areas, reduction of water absorption through cultivation and amelioration).

BOX 26

Flood management of the Morava River, Slovakia

The Morava River, with its source in the Carpathians, is a middle-European river basin and one of the Danube's largest tributaries, with a length of 328 km. The river supports diverse well-developed wetlands — mostly wet grasslands — with fragments of original floodplain forest occurring in protected areas. Due to its high natural values, the lower Morava River was designated as a Ramsar site in 1993.

During the last decade, water management authorities, environmental NGOs, stakeholders and state nature conservation authorities have been working together in different parts of the basin to maintain, restore and enhance the river's natural functions. This cooperation has resulted in a number of projects that are focused on re-opening meanders, restoring floodplains, improving forest management and increasing public awareness of floodplain values. Furthermore, various restoration projects and programmes, including agri-environmental schemes, are being implemented to increase the retention capacity of floodplains and improve water quality.

All these measures are in line with the principles of ecologically sustainable flood management combined with nature conservation interest. This approach is also among the main principles for the trilateral management plan for the lower part of the Morava River that is now being prepared by the ministries of environment from Slovakia, the Czech Republic and Austria, with assistance from NGOs and individual experts.

Source: *Living with Floods, Achieving Ecologically Sustainable Flood Management in Europe*, WWF, 2004. http://assets.panda.org/downloads/livingwithfloodswwfpolicybriefingfinal.pdf

However, appropriate agricultural policies can lead to flood prevention by incorporating requirements such as:

- considering the requirements of flood protection within agricultural development planning;
- minimising interventions within restructuring measures of rural land holdings and evaluating effects on floods, linked with such measures especially within relevant areas; and
- increasing the acceptance for less intense cultivation (compensated by financial aid).

Forestry and water management are insufficiently linked on the ground, and the role of forests in sustaining water supplies, in protecting the soils of important watersheds and in minimising the effects of catastrophic floods has long been discussed. Nevertheless, forestry planning can contribute to high-water prevention by designating protection woods, developing forestry management plans and mapping functions of specific sections.

Forests can also play a significant role, if managed appropriately, in the reduction of impacts from hydrogeomorphic processes.[180] Besides floods, forests contribute to preventing rock falls, landslides and avalanches.

Main international relevant agreements, legal instruments and initiatives

The relation between flood and agriculture/forestry is recognised at the international and European levels by several non-biding instruments. In 2000, the **UNECE Guidelines on Sustainable Flood Prevention** resulted from the second meeting of the parties to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.[181] They include recommendations on agriculture and forestry related to sustainable flood prevention, including the promotion of site-adapted agriculture and forestry, the use of flood plains as grassland, and the avoidance of large clear-cutting.

According to the **guidelines**, cooperation is necessary within each riparian country as well as between riparian countries and is most effective if it involves the public. As a rule, measures to prevent and control floods should be drawn up in such a way that they take into account the whole catchment area, irrespective of administrative or state borders, and are agreed upon and jointly coordinated.[182]

In 2004, the **European Commission** released a communication related to Flood Risk Management: **Flood Prevention, Protection and Mitigation**,[183] which underlines that the way agricultural and forestry areas are used is important for flood prevention and protection. The EC also acknowledges that it is necessary to improve the capacity of soil and plants to retain water, for instance by promoting soil protection and the maintenance of permanent pastures.

Responsibilities of local authorities

Local authorities will play a key role in achieving sustainable agriculture and forestry, and in developing environmentally friendly practices in the field. When developing these measures, they should take into account land cover and river catchments areas, but also soil, topographic, and climate conditions.

Local authorities should first analyse the flood risk and map the zones which are the most exposed to frequent, rare or exceptional floods, and consequently adopt adequate land-use measures for water retention.

Cooperation is imperative, at least between and among ministries and other authorities and institutions responsible for water management, regional planning, agriculture and forestry, and should be ensured. Work groups should also be established such as flood prevention committees, to communicate important information and exchange good practices.[184]

Linkages with other articles of the Convention

Article 3: Agricultural and forestry policies should contribute to integrated land resources management.

Article 4: By considering mountain ecosystem and landscape diversity in the development of agricultural and forestry policies, the parties will fulfil this obligation under article 7 and contribute to the implementation of article 4.

Article 5: Spatial planning policies should take into account agriculture and forest areas, preserving cultivated lands, grasslands, protected forests, and suggesting alternative use for the latter.

Article 6: Sustainable water management concerns contribute to flood prevention, and should be taken into account while using waters for irrigation of agricultural fields. Besides this, good agricultural practices will help to decrease water pollution.

Article 8: Sustainable transport and infrastructure policies and sustainable agricultural and forestry policies shall take consideration of each other, as all of them are important parts of spatial planning.

Article 9: Sustainable agricultural practices can attract the attention of tourists, for example to organic farms. Besides the promotion of traditional land-use practices and the trade of local agricultural products, tourism activities should be regulated in forest areas.

Article 10: Agri-environmental programmes as well as SFM can contribute to sustainable energy through the promotion of agricultural waste and wood as renewable energy sources.

Article 11: Sustainable agriculture and forest policies should aim at preserving the traditional knowledge related to nature and its products.

Article 12: EIA and SEA should be reflected in agri-environmental programmes and SFM instruments as valuable tools for achieving the objectives of the Convention.

Article 13: Awareness raising, education and public participation may enhance integration of the environment in agriculture and forest policies. Furthermore, the designation and the management of forest protected areas will be more effective with public participation from all interested parties.

Chapter G
Article 8

Article 8 – **Sustainable transport and infrastructure**

1. **The Parties shall pursue policies of sustainable transport and infrastructure planning and development, which take into account the specificities of the mountain environment, by taking into consideration the protection of sensitive areas, in particular biodiversity-rich areas, migration routes or areas of international importance, the protection of biodiversity and landscapes, and of areas of particular importance for tourism.**
2. **The Parties shall cooperate towards developing sustainable transport policies which provide the benefits of mobility and access in the Carpathians, while minimizing harmful effects on human health, landscapes, plants, animals, and their habitats, and incorporating sustainable transport demand management in all stages of transport planning in the Carpathians.**
3. **In environmentally sensitive areas the Parties shall co-operate towards developing models of environmentally friendly transportation.**

Transport plays an essential role in economic and social development. However, it has a considerable impact on environment through air and noise pollution, and extensive land use for its infrastructure (roads, railways, waterways, airports).

Across the world, traffic and transport volumes have expanded significantly in recent decades,[185] and the demand for mobility keeps increasing. These trends are also evident in Central and Eastern European countries, where the economies have expanded considerably in recent years.

However, in these transition countries the reform of the transport sector has been rarely considered as a high priority, and its development is marked by:

- liberalisation and development of road and air transport;
- decline of demand for freight and for public passenger transport, especially in the early 1990s;
- rapid growth of car ownership and road traffic, coupled with an increase in road accident frequency and severity;
- deterioration of infrastructure, and priority for new construction rather than maintenance of existing facilities; and
- inadequate environmental protection measures due to a lack of financial and human resources.[186]

Promoting an efficient transport system that provides accessibility, improving freight and passenger traffic flow would help to satisfy the economic and social needs of the regions. But at the same time, harmful effects on the environment and natural resources need to be minimised.

Indeed, negative effects of transport are diverse and wide-ranging. The transport sector contributes significantly to greenhouse gas emissions that are widely perceived as the main cause of global warming. It also causes health problems due to degradation of air quality and traffic accidents, and it is the largest source of noise pollution and nuisance.

Transport infrastructure and pollutant emissions from transport threaten landscapes and natural resources. Construction of transport infrastructure results in mortality of wildlife species, and in loss, fragmentation and degradation of their natural habitats. Expansion of infrastructure increases land use and pressure on biodiversity by destruction and fragmentation of habitats, adding barriers to the migration of many species, reducing their viability and disrupting local ecosystems, and contributing to the decline of populations in the long term. Air pollution at a local or regional level and traffic noise also have a negative impact on wildlife. Mountain-specific transport issues are numerous: high value and sensitivity of flora and fauna in mountain areas compared with average conditions, restriction of the share of usable land, amphitheatre effect for noise, high pollutant concentration due to cli-

mate conditions, and topographic barriers for transport infrastructure. While mountain areas are particularly sensitive there is a disturbing trend in Europe to develop long-distance transport infrastructure in these areas.

Looking at these general trends as well as the severe environmental and health impacts of transport in such a sensitive area like the Carpathians region, it is understandable that specific measures to reduce negative impacts are needed. Article 8 of the Carpathians Convention contains a general obligation for the parties to pursue policies for **sustainable transport and infrastructure** and to cooperate to achieve this goal.

Main concepts

The article refers to several key notions, which are explained below.

The term **infrastructure** refers broadly to facilities and related operations providing basic services to individuals and businesses, such as transport, communication, water supply, energy supply, and waste removal. When referring to transport infrastructure, the term encompasses the system of roads, rail, waterways, airfields, ports and all the relevant elements of the environment in which a transport system operates. The text of the Convention does not limit the term to transport infrastructure, but rather refers to all types of infrastructure. Note that the infrastructure relating to industry and energy is covered by article 10 of the Convention.

There is no internationally agreed definition of **sustainable transport**, but generally speaking, it may be described as all forms of transport which contribute to economic and social welfare without jeopardising the environment or harming human health.[187] According to this general definition the Organisation for Economic Co-operation and Development (OECD), in its 2002 report *OECD Guidelines towards Environmentally Sustainable Transport*, noted that: "A sustainable transport system is one that throughout its full life-cycle operation:

- allows generally accepted objectives for health and environmental quality to be met, for example, those concerning air pollutants and noise proposed by the World Health Organization (WHO);
- is consistent with ecosystem integrity, for example, it does not contribute to exceedence of critical loads and levels as defined by WHO for acidification, eutrophication and ground level ozone;
- does not result in worsening of adverse global phenomena such as climate change and stratospheric ozone depletion."[188]

It has to be underlined that this definition stresses the fact that a sustainable transport policy or plan would not be effective if it is not aimed at regulating and systematically assessing the environmental aspects of a transport system through all stages of its life cycle. The Canadian Centre for Sustainable Transport[189] underlines the social, cultural, economic and environmental aspects of sustainability inherent in the Brundtland Commission definition and defines sustainable transportation more widely: "A sustainable transport system is one that:

- allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations.
- is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy.
- limits emissions and waste within the planet's ability to absorb them, minimises consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimises the use of land and the production of noise."

Main relevant international agreements, legal instruments and initiatives

The long-term sustainability of transport policies has been a growing concern in the international debate on sustainable development because of important environmental and health impacts. **Agenda 21** made several references to the environmental and social impacts of transport. However, despite transport's profound relevance to the attainment of sustainable development, Agenda 21 did not contain a chapter on transport and thus did not provide a comprehensive and integrated approach to the subject. Nevertheless, the capacity to meet many of the environmental objectives listed in Agenda 21 depends on the ability to properly address concerns related to transport activities, which are deeply interrelated with almost all human activities.[190]

In 1997, transport and environment ministers adopted the **UN/ECE Vienna Declaration on Transport and the Environment,**[191] which sets out recommendations aiming at achieving a sustainable transport system. They adopted a Programme of Joint Action, a non-binding document related to the promotion of energy efficient and less polluting vehicles and fuels as an annex to the declaration. The programme encourages the application of strategic environmental assessment in the transport planning process at the international and national level, with obligatory environmental impact assessment relating to individual schemes at the national level. Also at the national level, it calls for the protection of landscape and ecologically sensitive areas with respect to the existing and proposed road and rail infrastructures.

In June 1999, ministers from 51 European countries adopted the **UN/WHO London Charter on Transport, Environment and Health,**[192] which aims to place health and environmental considerations firmly on the agenda of transport policy makers. This charter, which does not create legal obligations for states, includes a plan of action whose implementation was led by a steering group comprising representatives of 25 WHO member states, the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UNEP), the European Commission and six non-governmental organisations.

The EU first issued its **White Paper on Transport** in 1992,[193] which is a non-binding instrument containing proposals for Community action. Objectives of this policy are to embrace all modes of transport and, related to the integration of transport networks, to encourage switching to less polluting or underused modes, including rail and inland waterways, and to improve safety including the harmonisation of construction standards and improved infrastructure.

In October 1999, the EU Council adopted a **Strategy on the Integration of Environment and Sustainable Development into Transport Policy**. This non-binding EU strategy states that long-term environmental concerns should play a role equal to other concerns, such as economic and social factors, when formulating future transport policy. Notably, the EU Council called on member states to develop integrated strategies to promote sustainable development, leading where necessary to coordinated measures. Based on these guidelines, the European Commission issued in 2001 a new **White Paper on European Transport Policy for 2010**, defining a set of measures which will make it possible to have in place in 30 years a sustainable transport system.[194] Published in 2006, the mid-term review of this white paper argues that a comprehensive and holistic approach to transport policy is needed, stressing the importance of environmentally friendly transport and proposing a set of specific actions.[195]

A **Trans-European Network for Transport (TEN-T)** was also established at the EU level with the aim to "Ensure the sustainable and safe mobility of persons and goods within the area without internal frontiers under the best possible social conditions, while contributing to the attainment of the Community's environmental objectives" and to complete the trans-European transport network by 2020. A report of a high level group submitted to the European Commission in 2005 analyses the extension of the major trans-European transport axes to neighbouring countries and regions, including the Carpathian countries that are not EU member states, Serbia and Ukraine.[196]

Since the enlargement of the EU in 2004, the TEN-T includes most of the pan-European transport corridors in Central and Eastern Europe that were defined as priorities for infrastructure development at a Pan-European Transport conference in Crete in 1994. The planning and development of these intermodal corridors is known as the Transport Infrastructure Needs Assessment (TINA). Corridors IV and V run through the Carpathian region, following major roads, railways and inland waterways crossing the Czech Republic, Slovakia, Hungary, Romania and Ukraine.[197]

In the same spirit, the UNECE Trans-European Railway Network Project, established in 1990 by the governments of the Central, Eastern and South Eastern European countries, is aimed at improving the quality and efficiency of transport operations, providing assistance for the integration process of European transport infrastructure systems and the development of a coherent and efficient international railway and combined transport system in the region.[198]

The **Transport, Health and Environment Pan-European Programme** (THE PEP) was adopted by the Second High-Level Meeting on Transport, Environment and Health (Geneva, July 5 2002) of UNECE and WHO/Europe countries, which was attended by ministers and representatives from the transport, environment and health sectors of 38 member states. THE PEP was established as a means of integrating environmental and health aspects into transport policies and of providing a pan-European policy framework to take action on the priority areas identified by the Joint UNECE/WHO Ad Hoc Expert Group.

In addition, international guidelines such as **WHO air quality guidelines,**[199] defined by the World Health Organization, and the **Environment Strategy and Environmentally Sustainable Transport Guidelines**[200] developed by OECD, in cooperation with UNEP, the Central European Initiative (CEI) and national governments in 2001, were prepared to reduce environmental impacts from transport. Moreover multilateral environmental agreements, such as the **UNECE Convention on Long-Range Transboundary Air Pollution** (LRTAP)[201] or the **UN Framework Convention on Climate Change** (UNFCCC),[202] both ratified by all the Carpathians Countries, can bring a significant contribution to the development and implementation of sustainable transport policies.

The **Alpine Convention**[203] includes an obligation for all the parties to: "reduce the volume and dangers of inter-Alpine and trans-Alpine traffic to a level which is not harmful to humans, animals and plants and their habitats, by switching more traffic, in particular freight traffic, to the railways in particular by providing appropriate infrastructure and incentives complying with market principles, without discrimination on grounds of nationality."[204]

This obligation exists on two levels. First, it is an obligation to achieve the result of concrete reduction of traffic to a level which is not harmful. Second, it is an obligation to use a certain tool, that is to say a switch of freight traffic to railways. The approach chosen under Article 8 of the Carpathian Convention therefore differs substantially from the result-oriented regulations on transport of the Alpine Convention and includes mainly general requirements on the development of policies of sustainable transport and infrastructure planning and development.

Moreover, a Protocol on Transport was concluded by the Parties to the Alpine Convention.[205] It targets the development of sustainable transport in the region and encourages parties to reduce land use in order to allow natural regeneration and to limit pollutant emissions to a level which can be absorbed by natural processes. Quite strict obligations bind all the parties that ratified the protocol,[206] including a prohibition on building any other major transalpine roadways, a requirement to develop main transalpine railway axes and the establishment of low or no traffic areas in tourist zones.

1. The Parties shall pursue policies of sustainable transport and infrastructure planning and development, which take into account the specificities of the mountain environment, by taking into consideration the protection of sensitive areas, in particular biodiversity-rich areas, migration routes or areas of international importance, the protection of biodiversity and landscapes, and of areas of particular importance for tourism.

This first paragraph requires the parties to "pursue policies of sustainable transport and infrastructure planning and development," taking into account the specificity of mountain ecosystems and several key concerns regarding nature conservation and areas which are important for tourism. This is an obligation to adopt plans and to develop policies, and, as mentioned above, the policies relate not only to transport, but also to infrastructure development.

The provision requires strategies and planning that accommodate the particular geographic, environmental and socio-economic conditions of the Carpathians region. Mountains constitute natural barriers and therefore force transport infrastructures onto limited paths, and often require major civil engineering works such as tunnels or bridges. Territorial cohesion in mountain areas leads to the consideration of controlling the development of transport and the growth of traffic, taking into account the fact that environmental impacts are enhanced by the special topography, the climate conditions and the restricted living space. The Carpathians region is an extremely sensitive area and a sound transport policy should take into consideration its unique features (biological and landscape biodiversity, cultural heritage, etc.).

Since transboundary areas can be affected by transport and infrastructures projects, sustainable use of the land depends on cooperation among the Carpathian countries, which must coordinate their sustainable transport policies and find agreements in this field. In particular, with the realisation of trans-European networks, the efficiency of the transport system of the Carpathian countries depends on transnational cooperation among the countries aiming at realising an integrated transport system that can support the freight and passenger traffic passing through the region.

The provision lists natural areas and components which need to be taken into account when planning and developing such policies. They involve the protection of sensitive areas, biological and landscape diversity, and areas of particular importance for tourism.

Protection of sensitive areas

The Vienna Declaration of the UNECE Conference on Transport and the Environment defines sensitive areas as areas: "where the ecosystems are particularly sensitive, where the geographic conditions and the topography may intensify pollution and noise or where unique natural resources or unique cultural heritages exist."

When dealing with areas which are valuable and vulnerable to the impacts of transport, the Carpathians Convention focuses on considerations such as "biodiversity-rich areas, migration routes and areas of international importance." These notions cover designated areas at the international level (World Heritage sites, Ramsar areas, biosphere reserves, etc.) but also natural corridors for migration of species and areas recognised for their important diversity in species and habitats.

Protection of biological and landscape diversity

Biological and landscape diversity need protection from transport and infrastructure development, even when they are not included in sensitive areas. An ecosystem approach aiming at establishing a transport system that takes into account ecosystem integrity and nature conservation is needed.[207] Indeed, according to OECD, the ecosystem approach is one of the core elements of sustainable transport.[208]

BOX 27

Sustainable transport in sensitive areas: Example of the Austrian-Hungarian Neusiedler/Ferto Region

The Ferto region has been protected for decades (the area has the status of a landscape protection area, national park and biosphere reserve). Its ecological and cultural features, but also its vulnerable balance of land use and ecosystem, make the Ferto/Neusiedler region a sensitive area, particularly exposed to the impact of increasing east-west traffic and transport, and related environmental risks.

Proposal for the Joint Austro-Hungarian Pilot Project

The Austrian and Hungarian ministers of environment agreed to establish a bilateral project group aimed at elaborating joint proposals for pilot projects of sustainable transport in sensitive areas on the occasion of the international conference on sensitive areas, A Challenge for Transport and Environment, in Eisenstadt, March 2001.

Aim of the project

One of the principal objectives of the transborder pilot-project is the creation of a model which solves the transport problems in sensitive areas. The main approach is an environmental friendly development of the region both on the regional and trans-national level. A cross linking and integration of neighbouring sensitive areas, for example natural parks or regions, could be considered as an appropriate extension of the scope of the project.

As sensitive areas need sensitive transport management, three major criteria were defined:

- the fragility criteria: transport should take account of the fragility of ecosystems and water resources, as well as landscapes and villages;
- the value criteria: transport should not decrease but increase the value of environmental quality of this area; and
- the potential criteria: transport should contribute to the specific potentials of this sensitive area for a sustainable regional development in the future.

Recommended proposals adopted after the negotiations with the Austrian partners were the following:

Recommendation 1: Innovation in public transport

- Elaboration of regional mobility between the Hungarian and Austrian sides of Lake Neusiedl/Ferto with new mobility services (e.g. community bus);
- Integrating cycling and hiking in every-day traffic.

Recommendation 2: Cross-border Regional Mobility Centre

- A traffic and transport hub for developing and optimising public transport and an information centre;
- Developing a comprehensive travel information system.

Recommendation 3: Ecomobility for ecotourism/natural heritage

- Quality tourism through ecomobility for recreational tourism, mobility management;
- Attractive mobility packages for tourists, excursionists, and the resident population by train, bus, boat, cycling and walking.

Recommendation 4: Company mobility management

- Transport efficiency and environmental improvement through soft mobility and rationalisation;
- Innovative regional freight transport logistics;
- Networking based on innovative product and marketing concepts.

Recommendation 5: New vehicle technologies and landscape tailored infrastructure

- Regional low-floor trains, bio-fuel propelled vehicles, electric cars, alternative propulsion technologies, etc.;
- Extension of cycling and pedestrian paths, revitalisation, more attractive and a greater number of railway stations and bus stops, modernisation and expansion of public transport routes and lines.

Creating partnership

Implementation was based on the involvement of the greatest scale of local and regional stakeholders in particular from the field of transport, the environment, health, business, tourism and spatial planning. Regional and local authorities as well as national park authorities, local transport (Kisalfold Volan Rt., GySEV) and tourist companies were involved.

Source: http://ec.europa.eu/environment/gpc/pdf/ws1e_becker.pdf

More details on the requirements of the parties with regards to biological and landscape diversity are presented in Chapter I.D of the Handbook.

Protection of areas of particular importance for tourism

Finally, the Convention refers to areas of particular importance for tourism. It is generally recognised that environmental resources are a major element of tourism and that a good environment is an essential feature of tourist areas. Transport policies and especially planning are not only supposed to ensure access to "areas of particular importance for tourism" and to develop the mobility of tourists, but also to preserve these areas and avoid negative impacts. Indeed, it is necessary to reconcile demand of tourism mobility with protection of the environment, as well as to reduce pressure on sensitive areas. For example, sustainable tourism[209] should be promoted and systematically connected to sustainable forms of mobility (optimising walking and cycling, increasing use of public transport, avoiding air travel, etc).

This provision reflects the need for an **integrative approach**[210] to sectoral policies, promoted also by article 4 paragraph 6 of the Carpathian Convention: "The Parties shall take appropriate measures to integrate the objective of conservation and sustainable use of biological and landscape diversity into sectoral policies, such as […] transport […]" Parties shall pursue multisectoral cooperation and ensure that environmental requirements are integrated in transport-related decision-making processes.

Responsibilities of local authorities

This provision has more relevance to long-distance transport networks than to local transport. In this context, land use planning as well as local and regional development plans are recognised as essential instruments to integrate environmental concerns into transport policy. Local authorities, in developing and implementing their local development plans, as well as in providing input for the National Development Plan, are encouraged to take into account the need to preserve and protect biological and landscape diversity, as well as cultural and natural heritage sites, against negative impacts. This requires also local authorities to identify the biological and landscape diversity sites, the sensitive areas that may require special protection measures and the tourism attraction sites within their jurisdiction. When developing tourism strategies, local authorities should also consider the promotion of environmentally friendly transport measures, such as cycling and trains.

Local authorities will have quite distinct roles depending on whether the relevant decision-making processes relate to local transport or stages of long-distance transport networks. Given the international dimension of the transport system in mountainous areas, and the risk to be excluded from European and Trans-European markets, measures are only effective if concerted transnational strategies and action are taken, and local authorities will have a more difficult time representing local interests and values in these processes.

2. The Parties shall cooperate towards developing sustainable transport policies which provide the benefits of mobility and access in the Carpathians, while minimizing harmful effects on human health, landscapes, plants, animals, and their habitats, and incorporating sustainable transport demand management in all stages of transport planning in the Carpathians.

This paragraph directly requires the parties to cooperate in developing sustainable transport policies in the Carpathian region. The parties should have a uniform vision of developing transport infrastructure since it is obvious that individual measures at the national level are not sufficient to minimise the impact of transport in the Carpathian region and to ensure an effective protection of mountain ecosystems.

The focus here is placed on local mobility and transport policies pursued by the parties, which should aim at ensuring access to people, places, goods and services

BOX 28

Tram system in the High Tatras, Slovakia

The mountains of the High Tatras are surrounded by a belt of a 1,000 mm narrow-gauge 1,500 DC overhead electric mountainous railway line. Operation of the Tatra mountainous electric railway started on December 20, 1908. This narrow gauge line connects three major ski resorts and all of the villages between Strbske Pleso and Tatranska Lomnica. From 1896 there has also been a cog-wheel train connecting Tatranska Strba and Strbske Pleso, the only one of its kind in the High Tatras. Replacement of tramcars with a capacity of 200 persons was started at the end of the year 2000. A special car outfitted to transport automobiles, part of the Laborec express train, runs on the Praha–Poprad–Tatry route.

within the region, thus contributing to tourism development as well as the overall development of the Carpathian region. Without an efficient transport system in the Carpathian countries there is a risk of isolating local populations. Transport enables trade and access to employment, education and other economic and social opportunities. It also ensures cultural exchange.

Therefore, the parties should develop a common approach for the development of transport infrastructure networks in the region and coordinate their activities with a view to achieving the goals of the Convention. In practice, collaboration between competent authorities of the parties for transport, environment, health and spatial planning is necessary.

For example, technological developments have a key role to play in mitigating the impact of transport on the environment. Governments should share their knowledge on technological improvements and there should be further international cooperation between them, NGOs, industry and other research facilities to ensure the benefits of technology are available to all.

According to this provision, the Carpathian Convention defines sustainable transport as a balance between mobility measures and protection measures. The Convention highlights the fact that transport policies need to be oriented towards minimisation of harmful effects to human health and natural resources. Since it is impossible to prevent all impacts of transport on human health, landscapes, plants, animals and their habitats, minimisation is in demand as it leads to reduction of adverse effects of transport on the environment.

The aim of a sustainable transport strategy is not a strict protection of the environment, but is the balance between protection of the environment and the development of an efficient transport system that could satisfy the economic and social needs of the region. In this context, it is important to develop comprehensive monitoring systems of the impacts on health and environment. For this purpose, environmental impact assessment (EIA) and strategic environmental assessment (SEA) procedures for evaluating the likely impact of activities, plans or policies on the environment early in the decision-making process are established. More information can be found in Chapter I.K of the Handbook.

The case study in Box 30 illustrates the process for assessing transport development plans with regards to ecosystem fragmentation.

This paragraph of the Convention also calls for integration of transport demand management in all stages of transport planning.

Transport demand management is defined in the framework of THE PEP programme as a set of policies, strategies and action plans at the international, national and local levels, directed at optimising the use of motor vehicles, supporting more sustainable travel and improving the efficiency of transport infrastructure, taking into account social, economic and environmental effects of transport.[211]

The aim is not only to provide harmonised transport and land-use plans in order to reduce zones of conflict between infrastructure alignments and their environment, but also to influence transport demand. Transport policies are influenced to a large extent by the demand of the society for mobility and access. Thus, the shaping of the policies needs to be correlated with actions aimed at influencing the transport demand, by promoting efficient public transportation systems, safe cycling routes, and reliable railway sys-

BOX 29

Environmentally sustainable transport in the Alpine Region Report on Alpine passenger and freight transport

This joint study of Austria, France and Switzerland was elaborated under the umbrella of an OECD project on Environmentally Sustainable Transport (EST). Austria, France and Switzerland decided to work together within the framework of the OECD to launch a joint project defining the objectives and criteria for sustainable transport in the Alps and investigating the required strategies on measures to attain a sustainable Alpine transport system, at least in the three countries involved.

The EST Alpine Case Study is divided into three stages considering different aspects of transport in the Alpine region:

Step A: Long distance freight transport in the Alpine region;

Step B: Long distance passenger traffic in the Alpine region;

Step C: Regional traffic in the Alps, i.e. the intra-alpine traffic (passenger and freight).

Special attention was brought to the study of transalpine freight transport issues, which are particularly sensitive from the environmental viewpoint in the three countries involved.

Source: www.oecd.org

tems, thereby restricting the use of individual cars in environmental sensitive areas. Commercial traffic has a significant impact on environment, and specific measures need to be taken to switch to more environmentally friendly transportation means.

It is possible to reduce the need for travel by changing the mobility system and, more generally, the urban development planning through better access to public services and goods, promoting new communication technologies, and developing more efficient packaging and delivery of goods. Another means to reduce the demand is to introduce a tax for vehicles which have the most impact on the environment, and by introducing the transport infrastructure charging policy.[212]

Responsibilities of local authorities

Local authorities play a key role in the process of implementing transport policies. Cooperation between countries needs to take into account the local situation, and local authorities are in the best position to provide information on the current transport infrastructure, trends in transport and assessment of impact on human health and environment in the specific regions. Integrated strategies, EIA and SEA are efficient tools in assessing the impacts of transport and in preventing or mitigating them, as well as monitoring and reporting mechanisms at international, national and local levels.

All of these elements also help to enhance public information and involvement. Local authorities play a key role in implementing these instruments. Moreover, local development plans and land-use planning need to take into account the requirement to influence the transport demand towards environmentally friendly transportation means.

Investments in transport infrastructure have a long timescale, and in every stage of reflection the choice of mode of transport, future practices and environmental impacts need to be assessed in order to develop a feasible and viable strategy towards sustainable development.

The development of relevant indicators and the maintenance of databases are valuable components

BOX 30

Ecosystem fragmentation assessment for the Trento-Rocchetta road project

The Trento-Rocchetta road project is a new road connection to be constructed within the Autonomous Province of Trento, in northern Italy.

The area that will be affected by the roadway is represented by a wide alpine valley in which few natural ecosystems remain within an agricultural matrix. Due to their rarity, several of such ecosystems play an important role for the conservation of biodiversity within the province.

Indicators and evaluation

Five alternative layouts have been considered for this study.

The impacts caused by each alternative in terms of ecosystem fragmentation were studied by generating landscape scenarios and by measuring the changes in three ecological indicators: ecosystem core area, ecosystem connectivity, and ecosystem disturbance. All the operations were performed using a geographic information system (GIS). The three indicators were first measured for each natural ecosystem in the original conditions, i.e. without the proposed project (alternative zero).

The fragmentation impacts caused by the five alternatives were compared with the original ones. Such changes were assessed by constructing value functions that relate the differences to the expected loss of viability of the ecosystem patch. This allowed comparing the fragmentation impact of the five alternatives, and drawing a suitability ranking to be then proposed to decision-makers.

The impact scores showed that Alternative 5 had the least impact, whereas Alternative 2 was the most disruptive in terms of ecosystem fragmentation. The remaining alternatives performed quite similarly.

Lessons learned

This case provided an example of how to account for ecosystem fragmentation, so as to orient the planning and development of new infrastructure. In particular, the application of landscape ecology and the use of GIS were illustrated to simulate the spatial setting of the landscape after the siting of a proposed infrastructure development project. This allowed the highlighting of critical areas, as well as identification of the least disruptive location (e.g. the most suitable land corridor to host a linear infrastructure development.

Source: www.cardiff.ac.uk/archi/programmes/cost8/case/transport/trento-rocchetta.html

in specifying a level of quality and having a common structure for all modes of transport.

These databases should gather data on the existing transport infrastructure, on the road and traffic flows, and on the emission of pollutants in order to photograph the transport system situation and its impact on the environment. The data should be collected and analysed with the same methodology to avoid contrasting data. Transport policies can be adopted on the basis of these data.

Furthermore, several actions should be taken, including:

- optimising existing transport systems and infrastructure;
- favouring transfer to the most environmentally friendly means of transport (rail, bicycle, walking, etc.);
- improving planning of land use and stricter management of transport demand;
- reducing the overall volume of transport;
- maintaining and establishing low or no traffic areas, as well as bike and pedestrian ways; and
- introducing incentive measures for promoting the measures above.

3. In environmentally sensitive areas the Parties shall co-operate towards developing models of environmentally friendly transportation.

The last paragraph of this article requires parties to cooperate towards developing **models of environmentally friendly** transportation in environmentally sensitive areas. This obligation is actually encompassed in the obligation to pursue sustainable transport policies and emphasises the importance of developing and implementing such measures in environmentally sensitive areas. An "environmentally friendly transportation system" is one attuned to what is best for the environment and for human beings.[213] Such a system is assessed throughout the whole life cycle: manufacture, use and final disposal of vehicles as well as to the development of necessary infrastructure, taking into account energy consumption and the amount of waste generated.

The whole life cycle is a very important concept to develop a sustainable transport policy, and in general no good plan or policy would be effective if not aimed at regulating the full life cycle of a transport model.

Some transport modes are less environmentally damaging than others:

- Non-motorised transport, particularly the bicycle, benefit the environment by increasing mobility without polluting.
- Public transport, such as rail transport, has a good potential for energy efficiency.
- Intermodal transport, or a "modal shift" which is focusing on connectivity between modes as a means of facilitating a linked trip, is intended at least to reduce dependence on the automobile as the major mode of ground transport and increase the use of public transport.

Responsibilities of local authorities

Parties are required to cooperate in developing such transportation models in sensitive areas. Similar to in other areas, local authorities play a key role in promoting environmentally friendly transport models. Their role includes:

- developing and implementing sustainable transport policy;
- identifying environmentally sensitive areas within their jurisdiction based on clearly defined indicators and an effective environmental monitoring system;
- rethinking transport systems;
- promoting alternative modes of transport which are more eco-efficient for both passenger and freight;
- improving the efficiency of all transport modes by encouraging environmentally sound vehicle technologies and fuels;

BOX 31

Brennero Tunnel Project for rail transport of goods

The Autonomous Province of Bolzano, Alto Adige is working on a project for the Brennero Tunnel for transporting goods by rail. Moreover, connected with this project the Province of Bolzano is giving incentives to enterprises involved in investments devoted to the spread of information and knowledge on the benefits of rail transport in the Alps, and to those that are involved in the search for alternatives to road transport of goods.

- influencing individual travel behaviour and changing consumption patterns; and
- sharing data and experiences.

Furthermore, financial support as well as technical harmonisation and interoperability across systems are necessary to encourage innovative transport solutions. The Convention requires cooperation between parties in the development of models in a view to transferring the lessons learned from other countries' experience. The aim is to facilitate the exchange and spread of existing good practices of the different countries in the region.

These environmentally friendly means of transport can be developed also taking into consideration the best practices of other mountain areas, such as the Alpine countries. One of the best practices in the field is the model project Sustainable Mobility — Car-Free Tourism, which is described in Box 32.

Linkages with other articles of the Convention

Article 2: Following general objectives and principles defined by the Convention make it easier to fulfil obligations related to sustainable transport and infrastructure.

Article 3: Sustainable transport and infrastructure planning can lead to application of the approach of integrated land resources management.

Article 4: Conservation and sustainable use of biological and landscape diversity is part of sustainable transport policies and infrastructure planning.

BOX 32

Model project Sustainable Mobility – Car-Free Tourism

The project is a future-oriented common project for environment, tourism and mobility run by the Austrian Ministry for Agriculture, Forestry, Environment and Water Management, the Ministry for Innovation, Transport and Technology, the Ministry for Economy and Work, the Province of Salzburg and the two model communities Bad Hofgastein and Werfenweng. The project is also supported by the European Union.

The objectives of the project are to create a high-quality "car-free tourism" product, to implement innovative traffic concepts for travelling to the model communities, to provide impetus for the use of innovative transport technologies and to improve environmental quality.

Measures undertaken in Bad Hofgastein and Werfenweng:

- extension of walking and cycling paths;
- extension or establishment of pedestrian zones;
- traffic calming, attractive street designing and organisation of parking;
- replacing internal combustion engine vehicles with electric vehicles for special purposes (car rental, car sharing, hotels, delivery): more than 30 e-scooters, 10 e-bikes and three e-cars are already in use in the two model communities;
- bicycle and electric car sharing;
- Austria's first solar loading station for electric vehicles;
- pilot project in luggage logistics for visitors travelling by train (door-to-door service);
- new offers in regional and local public transport: Werfenweng Shuttle from Bischofshofen to Werfenweng, optimised Citybus with zero emission or hybrid vehicle in Bad Hofgastein;
- mobility management centre Pongau based on the regional municipalities in cooperation with Postbus and Austrian Railways will optimise public transport and coordinate with tourism;
- creation of a special interest group and attractive "all-inclusive-packages" for "Holidays from the Car" benefits for car-free tourists;
- cooperation with international transport and tour operators (TUI, Dutch Railways "Alpenexpress") for attractive tourist train travelling; and
- international partnerships with e.g. Bavaria, Lombardy, Trentino, South Tyrol, Veneto and Friuli-Gulia-Veneto in the international Alpsmobility project and cooperation with NETS, the Network European Tourism for Sustainable Mobility.

Source: www.oecd.org

Article 5: Spatial planning and transport are linked as they can ensure sustainable use of land.

Article 6: Implementation of article 8 can contribute to reducing water habitat fragmentation.

Article 9: Sustainable transport and infrastructure clearly help to promote sustainable tourism by ensuring mobility and access to important areas for tourism while preserving them.

Article 10: Environmentally friendly transport refers directly to sound methods for production and use of energy in manufacturing, vehicles and infrastructure.

Article 11: Sustainable transport and infrastructure can take into account traditional knowledge and lead to the preservation of cultural heritage.

Article 12: Environmental assessment as well as monitoring programmes contribute to the implementation of obligations of article 8.

Article 13: Awareness raising, education and public participation can increase the demand of environmentally friendly transport and infrastructure.

Chapter H
Article 9

Article 9 – **Sustainable tourism**

1. **The Parties shall take measures to promote sustainable tourism in the Carpathians, providing benefits to the local people, based on the exceptional nature, landscapes and cultural heritage of the Carpathians, and shall increase cooperation to this effect.**
2. **Parties shall pursue policies aiming at promoting transboundary cooperation in order to facilitate sustainable tourism development, such as coordinated or joint management plans for transboundary or bordering protected areas, and other sites of touristic interest.**

Tourism is one of the world's largest industries and one of its fastest growing economic sectors. It has a multitude of impacts, both positive and negative, on people's lives and on the environment. Concerns about negative impacts of tourism are high on the international agenda and tremendous work is underway to promote and implement the concept of sustainable tourism.

The World Tourism Organization (UNWTO)[214] defines **sustainable tourism** as "tourism which leads to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems."

Sustainable tourism is based on criteria of sustainability, which means that it must be ecologically bearable in the long term, economically viable, as well as ethically and socially equitable for the local communities.[215] Tourism can and should play a significant role in the overall process of reaching sustainable development.

Tourism is vital to the conservation and development of mountain regions. Mountain tourism accounts for 15-20 percent of worldwide tourism, or USD 70-90 billion per year. By the year 2010, the UNWTO predicts that there will be 1 billion international tourists and more than USD 1,500 billion generated in revenue.[216] As tourism increases in mountain regions around the world, environmental, social and economic impacts can also be expected to increase. As highly environmentally sensitive areas and the home of rich traditions, mountain regions are more vulnerable to the negative impacts of tourism. Special attention should be paid to ensuring sustainable development of tourism in such areas.

Notwithstanding the possible harmful consequences it is important to remember that income from tourism in mountain regions may contribute significantly to national and local economies. To address these concerns, the Carpathian Convention requires parties to work together and individually to promote sustainable tourism in the Carpathian region.

1. The Parties shall take measures to promote sustainable tourism in the Carpathians, providing benefits to the local people, based on the exceptional nature, landscapes and cultural heritage of the Carpathians, and shall increase cooperation to this effect.

Main concepts

A great number of charters, codes, guidelines, principles, position papers and other similar documents developed under various international forums focus on sustainable tourism, eco-tourism, environmentally and culturally responsible tourism, etc. "Eco-tourism" refers to a segment within the tourism sector (a nature-based form of tourism in which the main motivation of the tourists is the observation and appreciation of nature and traditional cultures prevailing in natural areas[217]), while "sustainable tourism" may be applied to all forms of tourism.

The term "sustainable development of tourism" emphasises an approach to the development of tourism in which economic, environmental and social concerns are integrated. Tourism is often regarded as a tool for development and poverty reduction, but if not managed in a sustainable manner, it may lead to environmental degradation or unintended social disruption. Mass tourism may cause loss of biodiversity and deple-

tion of natural resources. According to the Worldwatch Institute, tourism is responsible for 5.3 percent of all human-related greenhouse gas emissions, and of this amount, transport produces some 90 percent of the emissions (mainly due to air travel).[218]

The development of sustainable tourism is seen by UNWTO as a process which meets the present and future needs of the tourists and the host communities. Thus, sustainable tourism takes into account the interests of local communities and provides them benefits on economic, social and environmental levels. In addition to generating employment opportunities for the local community, sustainable tourism helps reduce impacts on the natural and cultural heritage, and can support traditional knowledge and promote the use of local products.

The Carpathian Convention recognises that the natural and cultural heritage, including landscapes,[219] of the region represent essential features for tourism. Indeed, the aesthetic value of the mountainous environment plays an important role in the attraction of tourists, and the exceptional resources of the Carpathians are without a doubt an asset for tourism development.

Measures to help make tourism more sustainable include concrete incentives, introduction of eco-labels, and setting up of indicators. Several countries have developed indicators for sustainable tourism[220] to measure impacts on different environmental factors (atmosphere, waste, urban areas, natural resources) during the development of tourist action plans at the local level. Work is currently under way at the EU level to develop indicators for sustainable tourism which will look notably at the modal split of tourism transport, the way tourism prices reflect environmental costs, energy use, and other aspects of sustainable tourism.

In line with the basic principle of transboundary cooperation found in the Carpathian Convention,[231] this provision requires the parties to increase cooperation to promote sustainable tourism. This requirement is further developed in the second paragraph of article 9 of the Carpathian Convention.

Main relevant international agreements, legal instruments and initiatives

Chapter 13 of **Agenda 21**[222] dealing with sustainable mountain development requires governments to

BOX 33

Agri-tourism measures, Veneto (Italy)

The Regional Law of April 18, 1996 of the Veneto Region in Italy prescribes a series of incentives for the agri-tourism sector in order to provide benefits for the local people that are living in fragile rural areas.

Concrete measures have been adopted to carry out the following tasks:

- to protect the cultural traditions by supporting cultural initiatives, especially during high seasons for tourism, in order to diversify the tourism offers and therefore to promote the conservation of the land and environment through sustainable development;
- to improve natural resources and historical buildings in order to raise tourism in certain areas;
- to support youth tourism; and
- to support local production in order to balance the relationship between urban and rural areas.

BOX 34

Eco-museums in the Alps

The institution of ecomuseums in the Italian Alps, such as the ecomuseum of Vanoi near the Paneveggio-Pale di San Martino Nature Park, represents a good example of promoting sustainable tourism for local authorities. Trips are organised into natural habitats, or into protected areas (during day and night) in order to make people aware of the richness in biodiversity and the beauty of Alpine ecosystems. Moreover, in all the Alpine Arc, there are several opportunities for birdwatching, complemented by facilities and infrastructure such as mountain and cycle paths that offer a viable way to practice tourism in a sustainable way.

diversify mountain economies, *inter alia*, by creating and/or strengthening tourism, in accordance with integrated management of mountain areas and to promote sustainable tourism as an alternative livelihood opportunity for mountain areas. Chapter 36 of Agenda 21, focusing on promoting education, public awareness and training, requires countries to: "promote, as appropriate, environmentally sound leisure and tourism activities, building on The Hague Declaration of Tourism[223] and the current programmes of the World Tourism Organization and UNEP, making suitable use of museums, heritage sites, zoos, botanical gardens, national parks, and other protected areas."

The **Johannesburg Implementation Plan**[224] promotes in paragraph 43 the development of sustainable tourism in order to increase the benefits from tourism resources for the population in host communities while maintaining the cultural and environmental integrity of the host communities and enhancing the protection of ecologically sensitive areas and natural heritage sites. The implementation plan acknowledges that sustainable tourism development contributes to the strengthening of local and rural communities and it lists specific actions that should be taken to achieve these goals, among which are enhancing international cooperation and focusing on local development.

The **Global Code of Ethics for Tourism**, adopted by the UNWTO in 1999 and endorsed by the UN General Assembly in 2001, is a guiding tool for sustainable tourism development. The code recognises the role of tourism as a factor for sustainable development. Article 3 requires all stakeholders in tourism development to "safeguard the natural environment with a view to achieving sound, continuous and sustainable economic growth geared to satisfying equitably the needs and aspirations of present and future generations." The code has been translated into national language versions[225] by all Carpathian countries except Ukraine.

BOX 35

Sustainable use of the natural and cultural heritage of Banska Stiavnica, Slovakia

Background

In 1993, UNESCO included the historical town of Banska Stiavnica and the technical monuments (historical water-supply network) of its surroundings on the World Heritage List. The region is also known for its unique landscape: Banska Stiavnica is situated in the heart of the Stiavnica Hills, a protected landscape area (equivalent to IUCN Category V – Protected Landscape/Seascape) that contains 15 smaller nature reserves and protected sites or habitats of species.

A project entitled "Promoting Sustainable Tourism in Central and Eastern Europe – A Demonstration Model Applied to the Natural and Cultural Heritage of Banska Stiavnica, Slovakia," implemented by Ecological Tourism Europe (ETE), tested the implementation of the CBD Guidelines on Biological Diversity and Tourism Development.

Outcomes

The case study drew attention to several key factors for successful sustainable tourism development planning:

- need for central and local tourism planning and management authorities;
- availability of accurate information and knowledge on ecosystems and their characteristics providing a sound basis for environmental impact assessment and management;
- development of a common vision of local tourism development with involvement of all stakeholders;
- clear definition of tourism development and biodiversity conservation objectives to enable agreement on common goals and objectives;
- clear legislative framework, backed up by an effective enforcement system and an institutional framework allowing for close coordination of activities in the biodiversity and tourism sector;
- comprehensive impact assessment procedures for tourism development projects;
- comprehensive policy and legal tools for impact management: management plan for nature conservation, guidelines for future tourism development, visitor management plan, systematic and standardised monitoring;
- effective public participation in relevant decision-making processes, public education and public awareness campaigns, etc.;
- enhanced capacity building for sustainable development for various stakeholders.

Source: www.biodiv.org/doc/case-studies/tour/cs-tour-banska-sk.pdf

According to a report by the World Tourism Organization on its implementation, most of the countries had already incorporated the principles of the code into their laws, regulations or tourism development plans.

The **Guidelines on Biodiversity and Tourism Development**[226] developed under the Convention on Biological Diversity (CBD) in 2003 focus on biodiversity issues, acknowledging that this is only one aspect of sustainability. The guidelines provide practical technical guidance to policy makers, decision makers and managers with responsibilities covering tourism and/or biodiversity, as well as the private sector, indigenous and local communities, NGOs, and other civil society organisations, on how to implement sustainable tourism in vulnerable ecosystems while complying with the obligations deriving from the CBD. The guidelines define the various stages of tourism development: policy making, development planning and management, notification and information requirements, education, capacity building and raising awareness.

A case study on the implementation of the guidelines is presented in Box 35.

UNEP developed the **Principles for Implementation of Sustainable Tourism** with the intention of providing guidance to tourism stakeholders on how to put into practice the general concept of sustainable tourism. The principles have been used as a reference by many inter-governmental organisations and in agreements such as the Convention on Biological Diversity. The principles cover the integration of tourism into the overall strategy for sustainable development, guidance for the development of sustainable tourism, management of tourism and key factors for success. They recommend to undertake comprehensive EIA for all tourism development programmes and ensure constant monitoring of tourism activities. The importance of involving stakeholders, exchange of information and strengthening human resources and institutional capacities is also underlined.[227]

The **Lanzarote Charter on Sustainable Tourism,**[228] the **Hague Declaration on Tourism**, and the **Tourism Bill of Rights and Tourist Code**[229] all emphasise the sustainability aspects of tourism.

Agenda 21 for the Travel and Tourism Industry[230] is an action plan for the industry sector. It sets a number of priorities for the private and the public sectors and the steps to achieve them. The 10 priority areas for action by the travel and tourism industry are:

- waste minimisation, re-use and recycling;
- energy efficiency, conservation and management;
- management of freshwater resources;
- wastewater treatment;
- hazardous substances;
- transport;
- land-use planning and management;
- involving staff, customers and communities in environmental issues; and
- design for sustainability.

The **Alpine Convention** requires its parties to take adequate measures to harmonise tourism and recreational activities with ecological and social needs, in particular by limiting activities that are harmful to the environment and by establishing safe areas.[231] Besides this general obligation, the Alpine countries adopted a **Protocol on Tourism** in 1998. The protocol requires parties to adopt general plans, guidelines and an EIA procedure for tourist programmes, support projects for the promotion of sustainable tourism, enhance the exchange of information on projects and action plans regarding tourist infrastructure, and control the flow of tourists, especially in fragile areas.

Responsibilities of local authorities

Local authorities have a key role in sustainable tourism development. It is generally acknowledged that the best process to ensure sustainable tourism development at local level is based on the Local Agenda 21 approach. A Local Agenda 21 programme allows a local community to define a sustainable development strategy and an action programme to be implemented. This process is usually initiated and led by local authorities, and its successful outcome depends on strong involvement of the local population, NGOs, private enterprises and other local stakeholders.

Significant literature has been developed as a guiding tool for local planners and developers. In 1990 the UNWTO prepared a *Guide for Local Authorities on Sustainable Tourism Development*;[232] UNEP published a useful guidebook on the integration of sustainable tourism concerns into Local Agenda 21 programmes (Tourism and Local Agenda 21 – the Role of Local Authorities in Sustainable Tourism[233]); GTZ (Gesellschaft fur Technische Zusammenarbeit) prepared the publication *Sustainable Tourism as a Development Option — Practical Guide for Local Planners, Developers and Decision-Makers*;[234] and WWF prepared the *Guidelines for Community-Based Eco-tourism Development*. The guide for policy-makers, Making Tourism More Sustainable[235] developed by UNWTO and UNEP, applicable worldwide, is a comprehensive and practical tool for all decision makers aiming to develop sustainable tourism.

Before developing a sustainable tourism development strategy, local authorities need to generate within their communities a general discussion on whether

sustainable tourism is a viable development option. Aspects such as existence of basic infrastructure, simple visa regulations, tourist safety, good economic environment, and stimulating investments in environmentally friendly tourism developments need to be taken into account when reviewing the sustainable tourism potential.

Once the community has defined clearly that sustainable tourism is a viable form of development, a comprehensive planning process involving all stakeholders should be pursued. This process could be shaped following the Agenda 21 approach, as recommended by the various guidebooks for local authorities. In order to reach successful, accurate and meaningful results, the process should be based on the following principles:

- holistic approach — tourism should be considered within the overall efforts for reaching sustainable development;
- active participation of local communities and all stakeholders — the tourism industry, civil society, local and regional governments, environmental and nature protection authorities, etc.;
- balancing the three aspects of sustainability — requires also long-term planning, consideration of local and global impacts (climate change, water scarcity, etc.) and promotion of sustainable consumption patterns; and
- strong leadership from the facilitator of the process (in most cases the facilitator or initiator of the process will be the local authorities).

More specifically, local authorities planning to promote and implement sustainable tourism within their local communities should:

- integrate sustainable tourism within the overall policies and actions towards sustainable development in the area;
- secure a sound analysis and background for the sustainable tourism strategy, including assessment of the area's socio-economic and environmental framework and needs, and how tourism relates to them, an inventory of tourism activities and attractions taking into account impacts on ecosystems, biological diversity and local culture and traditions, and analysis of existing and potential future markets;[236]
- support the tourism industry's transition to more sustainable behaviour through trainings, guidance manuals, etc.;
- strengthen communication between tourists and the local community, through, for example, awareness campaigns on the cultural and natural values of the destination and guidance on how to preserve them, promoting quality information to tourists through various media means; and
- ensure low-impact access to facilities for tourism (transport and accommodation infrastructure).

2. Parties shall pursue policies aiming at promoting transboundary cooperation in order to facilitate sustainable tourism development, such as coordinated or joint management plans for transboundary or bordering protected areas, and other sites of touristic interest.

Main concepts

Coordinated or joint management plans are an important tool for promoting sustainable tourism at the transnational level, and they ensure that common measures are taken across borders. For more effectiveness, these plans should be developed and implemented involving all relevant stakeholders. They should also

BOX 36

The Amber Trail Greenway, a joint Polish-Slovak-Hungarian ecotourism initiative

Greenways are trails based on conservation of cultural and natural heritage resources and serve to support environmentally friendly tourism and recreation. The Amber Trail Greenway connecting Poland, Slovakia and Hungary is part of the Central European Greenways, a programme implemented by the Environmental Partnership for Central Europe (EPCE) consortium. The project was developed in 1999 and was established through cross-sectoral partnerships with four partnership groups, 14 municipalities, six cultural centres, 11 NGOs, and 31 schools from the three countries.

The trail follows a part of the ancient trade route used for transporting amber from the Baltic Sea to the Adriatic Sea and today constitutes a culturally and ecologically valuable route ideal for eco-tourism.

Source: www.ambertrail.info/index.html

be specific to the site and define clear objectives to be achieved. When preparing a management plan, various tourism development options need to be considered and evaluated, and mechanisms for monitoring and reviewing the progress in implementing the plan should also be established.

Transboundary protected areas[237] provide important opportunities for collaboration between neighbouring countries.

These areas, dedicated to the protection and maintenance of biological diversity and of natural and associated cultural resources, hold major tourism potential due to their exceptional features. Examples of cooperation regarding cross-border protected areas are numerous in the Carpathian region. Among others: cooperation in the Tatra mountains; common projects between the Aggtelek Biosphere Reserve in Hungary and the adjacent Slovensky Kras Biosphere Reserve in Slovakia; agreement between authorities of the Babia Gora Biosphere Reserve in Poland and the Protected Landscape Area of Horna Orava in Slovakia (see Box 37).

Main relevant international agreements, legal instruments and initiatives

The **Alpine Convention and its Tourism Protocol** are particularly focused on the promotion of cooperation among the parties towards the common management of tourism in transboundary areas, the organisation of common recreational opportunities and cooperation on solutions to problems.

One of the measures to enhance cooperation in the Carpathian region could be the adoption of **a thematic protocol to the Carpathian Convention**. The experience with the adoption and implementation of the Tourism Protocol to the Alpine Convention would prove useful during drafting and negotiations.

Responsibilities of local authorities

The parties should undertake active exchange of experience and good practices on sustainable tourism in mountain areas, cooperate on projects targeting the Carpathian region, and coordinate activities regarding transboundary or bordering protected areas. Since the natural and cultural environment within the protected area should form the basis for all uses, tourism policies and strategies need to support and maintain natural and cultural values of the sites.

Keeping this in mind, local authorities should:

- undertake active exchange of experiences and good practices on sustainable tourism in mountain areas;
- initiate coordinated/joint plans and activities for a coherent management of shared protected areas and other sites of tourist interest;
- ensure public participation in the planning process;
- establish dialogue and regular cooperation between all the stakeholders, including the local community, tourist operators, and protected area managers and planners; and

BOX 37

Cross-border cooperation between Babia Gora (biosphere reserve/national park) and Horna Orava (protected landscape area)

The protected landscape area of Horna Orava is located in the Upper Orava region, which is situated in the mountains of northern Slovakia, beneath the mountain Babia Hora. Babia Gora is a national park included in the UNESCO programme of "Man and Biosphere" Reserves, and is situated in the southern part of Poland.

In 2002, a cooperation agreement was concluded between the administrations of the adjacent protected areas. It emphasises knowledge and acceptance of both authorities (Polish and Slovak), mainly through the elaboration of common strategies (e.g. nature protection, ecological education, tourism) and the implementation of common cross-border projects and programmes.

As a result, a Polish–Slovak educational route was opened leading from Markowe Szczawiny in Poland to Slana Voda in Slovakia. This new route allows observation of the wildlife of both the northern and southern slopes of Babia Gora/Hora. Visitors have an opportunity to become familiar with the flora, fauna, caves and peat bogs of the area. Furthermore, activities aimed at eliminating two parallel tourist routes along the state border and creating one tourist route instead have reduced the area trampled by tourists.

Local communities cooperate through, for example, the PHARE CBC project Bicycle Trail around the Babia Gora Massif, which involves the Polish municipal association of the Communes of Babia Gora and the Slovak municipal association Babia Hora.

Source: www.gefweb.org/Documents/Medium-Sized_Project_Proposals/MSP_Proposals/Regional_ _Conservation_Sound_Tourism.pdf

- continuously evaluate all tourism programmes to ensure that goals are met.

Planning should occur within the regional context of a particular area. All tourism opportunities should be inventoried as part of the planning process, and the planning of tourism should take tourism demands into account.

Linkages with other articles of the Convention

Articles 4 and 11: On one hand, the biological and landscape diversity and natural and cultural heritage resources will attract tourists and thus bring benefits to local communities. On the other hand, sustainable tourism leads to reduced impacts of tourism on the environment as a whole.

Article 5: Spatial planning may influence tourism, and joint spatial plans can take into account tourism development.

Article 7: Sustainable management of lands and forests will benefit sustainable tourism in these areas. Forests, as leisure areas, represent important tourist sites.

Article 8: Facilities are indispensable for the development of tourism, and a good public transport system is necessary for reaching tourist destination points. Sustainable transport and infrastructure are thus needed for sustainable tourism.

Article 12: Environmental impact assessment of tourism activities and regular monitoring of their development are essential in ensuring their sustainability and in avoiding potential detrimental effects.

Article 13: Public awareness and education are crucial for the promotion and implementation of sustainable tourism practices.

Chapter I
Article 10

Article 10 – **Industry and Energy**

1. The Parties shall promote cleaner production technologies, in order to adequately prevent, respond to and remediate industrial accidents and their consequences, as well as to preserve human health and mountain ecosystems.
2. The Parties shall pursue policies aiming at introducing environmentally sound methods for the production, distribution and use of energy, which minimize adverse effects on the biodiversity and landscapes, including wider use of renewable energy sources and energy-saving measures, as appropriate.
3. Parties shall aim at reducing adverse impacts of mineral exploitation on the environment and ensuring adequate environmental surveillance on mining technologies and practices.

Mountains are a key source of energy: they provide biomass fuels (wood, agricultural residue) as well as non-renewable fossil fuels, such as coal and gas. They are also rich in minerals and metals and, therefore, suitable locations for extractive industry. Economic and social development is largely dependent on industry and energy, as these two sectors are essential components of all human activities. They contribute to the enhancement of economic growth and generate employment.

Industry, energy and environment are closely interrelated. While the consequences for the environment of industrial production and energy uses are often highly adverse, industry and energy have a key role to play in achieving the goals of sustainable development. These sectors provide goods and services, and can contribute to environmentally sound development through the saving of resources and the development of renewable energy and technologies that reduce the harmful effects of industrial activities and energy on the environment.

Recognising the particular vulnerabilities of mountain areas, article 10, targeting the protection of the environment and human health, requires parties to take measures and introduce activities to promote cleaner production, to provide adequate response to industrial accidents and mitigation systems, to promote environmentally sound methods of energy production, distribution and use, to facilitate the use of renewable sources, to implement energy-saving measures and to reduce the environmental impacts of mining.

1. The Parties shall promote cleaner production technologies, in order to adequately prevent, respond to and remediate industrial accidents and their consequences, as well as to preserve human health and mountain ecosystems.

This first paragraph is devoted to industry and aims to encourage environmentally sound technologies and protect human beings and the environment from industrial accidents. It should be noted that the text of this provision is somewhat ambiguous; the Convention associates cleaner production technologies with the prevention of and response to industrial accidents. Indeed, while cleaner production might reduce the occurrence and severity of industrial accidents by lowering the amount of pollutants used and produced, it has limited direct impact on accident prevention, response or remediation and is not in any way the sole means by which accidents are prevented or mitigated. Considering the need for clarity, particularly with respect to local authorities and others charged with implementing the Convention, it may be wise for the Conference of Parties to develop this provision further, through guidance, decisions or by amending the text of the Convention.

Adequate measures to reduce the risk of industrial accidents are numerous, including investment guidelines, risk assessment, implementation of safety management systems, public information, and others. In this respect, the implementation of international conventions dealing with accident prevention and management is crucial.

Industrialisation has always been a motor for modernisation and economic growth. However, the UN Commission on Sustainable Development notes in a report that, as the role of industry in economic development has expanded there has been a corresponding increase in the impact of industrial activities on the environment. Harmful emissions and waste are generated by all industry sectors and can have global, regional or local impacts. At the local level, industrial emissions contribute to urban air pollution and the contamination of soils and rivers. Impacts at the regional level include acid rain, water contamination and coastal zone contamination. The main global impacts are climate change, ozone layer depletion and the loss of biodiversity.[238] This is more apparent in sensitive/fragile ecosystems such as mountain areas.

Furthermore, the question of safety arises because of the potential of industrial accidents. The risk of industrial accidents is higher in countries where few industrial facilities have been modernised and most Carpathian countries include poorly maintained installations. Adequate response to these negative impacts can be found in new technologies: hence industrial technology, efficient production processes and continuous innovations contribute to the improvement of environmental performance of industry. The Carpathian Convention calls for the promotion of cleaner production technologies.

Main concepts

The concept of **cleaner production** was first developed in the 1990s by the UN. The definition adopted by UNEP is the following:[239] "cleaner production is the continuous application of an integrated preventive environmental strategy to processes, products, and services to increase overall efficiency, and reduce risks to humans and the environment."

This concept describes a preventative approach to environmental management. It is a broad term that encompasses notions such as eco-efficiency or green productivity and refers to industrial processes for the

BOX 38

Cleaner production in the rubber industry, Czech Republic

Beltyre Ltd. is one of the biggest manufacturers of rubber products in the Czech Republic. Its four product lines include rubber semi-manufactured products; motorcycle tires, rubber belts, and tires for cars and agricultural vehicles.

A cleaner production audit at the company focused on rubber belt production, because it was found to generate a high amount of waste. Energy and water consumption was high. As the tire production was undergoing changes in technology a cleaner production audit was not considered useful.

The following six cleaner production solutions were developed and selected for implementation:

- modification of the rubber cutting machine to minimise waste generated;
- reuse of rubber waste originating from the cutting process;
- substitution of substances used during the vulcanisation process for separation purposes to avoid the formation of precipitates and to allow the cooling water to be recycled;
- strict supervision of water consumption to enable the detection of leakage;
- installation of a new heating system that allowed for separate operation in the various facilities; and
- improvement of the use of the central heating by turning it down during weekends.

Environmental benefits

The CP options implemented resulted in a significant decrease of wastewater of about 5,520 cubic metres per year along with a reduction of the consumption of fresh water of about 220 m^3 per year. Through the changes to the cutting process, rubber waste amounting to 3.3 tonnes per year could be avoided. The improvement of the heating system yielded a reduction of the heat consumption by 12 percent.

Financial benefits

Four out of the six cleaner production options selected for implementation were no cost options and resulted in savings equal to USD 22,000. The two medium cost options stimulated an investment of USD 14,800 and will result in savings of about USD 13,400. Payback periods are in the range of four months to six years.

Source: www.cleanerproduction.com/Directory/sectors/subsectors/rubber.html

production of goods and services with minimum environmental impact (e.g. reducing the amount of waste and the overall generation of pollution, and improving efficient use of resources).

Cleaner production technologies are also closely linked to best available techniques (BAT) defined by EU Directive 96/61/EC on Integrated Pollution Prevention and Control, which is a tool aiming at preventing, reducing and eliminating pollution at the source. BAT means: "the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.[240]

The role of cleaner production technologies is not directly to respond to industrial accidents and their consequences. Nevertheless, it leads to reduced risks to the environment, health and safety, and therefore contributes to industrial accident prevention.

Industrial accidents are defined by the UNECE Convention on the Transboundary Effects of Industrial Accidents as events resulting from an uncontrolled development in the course of any activity involving the use, storage, handling, disposal or on-site transport of hazardous substances at an installation. That convention applies to accidents which are capable of causing "transboundary effects." This concept refers to "serious effects within the jurisdiction of a Party as a result of an industrial accident occurring within the jurisdiction of another Party."[241]

The reduction of the frequency and severity of major industrial accidents can be achieved through the implementation of a prevention, preparedness and response (PPR) programme related to industrial risk, taking into account recognised standards and norms. Risk management,[242] for example, is an appropriate tool for preventing and reducing the frequency and impacts of this kind of accident. In addition, the consequences of industrial accidents can often be reduced if properly addressed. For instance, the immediate activation of adequate on-site and off-site contingency plans, including coordinated response and guaranteed population security, is required. Accident de-pollution and remediation actions need also to be organised (disposal of containers, decontamination of affected ground, protection of the soil and the water, etc).

Main international relevant agreements, legal instruments and initiatives

In the **International Declaration on Cleaner Production,**[243] which was adopted at the fifth International High-Level Seminar, held in South Korea in autumn 1998, cleaner production was defined as follows: "We understand Cleaner Production to be the continuous application of an integrated, preventive strategy applied to processes, products and services in pursuit of economic, social, health, safety and environmental benefits."

The signatories to the declaration committed themselves to take action to adopt cleaner production technologies by setting challenging goals and reporting progress through established management systems, by encouraging new and additional investment in preventive technology options and promoting environmentally sound technology cooperation and transfer between countries, and by joint actions on reviewing the implementation of the declaration.

The **Convention on the Transboundary Effects of Industrial Accidents** (TEIA),[244] adopted in Helsinki on March 17, 1992, entered into force on April 19, 2000. Most of the Carpathian countries are parties to this convention, which is of special relevance for the implementation of the present article. The convention sets out the measures the parties need to take in order to prevent, respond to and mitigate the consequences of an industrial accident with transboundary effects, including the effects of accidents caused by natural disasters. It also covers international cooperation concerning mutual assistance, research and development, exchange of information and exchange of technology in the areas of the prevention of, preparedness for and response to industrial accidents. The convention promotes international cooperation between the parties, before, during and after an industrial accident and encourages them to help each other in the event of such an accident, to cooperate on research and development, and to share information and technology.

The Protocol on Civil Liability for Damage and Compensation for Damage Caused by Transboundary Effects of Industrial Accidents on Transboundary Waters, adopted in Kiev on May 21, 2003, is a joint instrument to the Convention on the Transboundary Effects of Industrial Accidents and to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes. Only Hungary had ratified it as of 2007.

Following the Chernobyl catastrophe, the world's worst nuclear disaster, several international conventions and legal agreements were adopted regarding the prevention of and responses to nuclear accidents. In 1986 the International Atomic Energy Agency (IAEA) developed the **Convention on Early Notification of a Nuclear Accident**, which requires states to report an accident's time, location, radiation releases, and other data essential for assessing the situation to affected states directly or to the IAEA. The

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency requires states to notify the IAEA of their available experts, equipment, and other materials for providing assistance. All Carpathian countries are parties to these conventions. The **Convention on Nuclear Safety**, adopted in Vienna on June 17, 1994, entered into force in 1996. It is aimed at achieving higher levels of safety through requirements regarding siting, the availability of adequate financial and human resources, the assessment and verification of safety, quality assurance and emergency preparedness and other measures. All of the Carpathian countries with the exception of Serbia have ratified this Convention.[245]

Chapter 30 of Agenda 21 promotes cleaner production, recognising that production, technology and management that use resources inefficiently form residues that are not reused, discharge wastes that have adverse impacts on human health and the environment and manufacture products that, when used, have further impacts and are difficult to recycle. These need to be replaced with technologies, good engineering and management practices and know-how that would minimise waste throughout the product life cycle. The concept of cleaner production implies striving for optimal efficiency at every stage of the product life cycle.

Article 1 of the **Council Directive 96/82/EC of 9 December 1996 on the Control of Major-Accident Hazards Involving Dangerous Substances** (Seveso II Directive) states that the aim of the directive is to prevent major accidents which involve dangerous substances, and to limit their consequences for human beings and the environment, with a view to ensuring high levels of protection throughout the Community in a consistent and effective manner. Member states shall ensure that industrial operators are obliged to take all necessary measures to prevent major accidents and to limit their consequences by setting up a major-accident prevention policy and ensuring its proper implementation as a guarantee of a high level of protection for human beings and the environment by appropriate means, structures and management systems. Annex 1 of this directive lists the substances that fall under the "dangerous" category (Part 1) and groups substances not specifically mentioned in Part 1 into different categories (groups) of substances (Part 2) with a further detailed breakdown and explanation of the contents of each category.

Accident prevention is also linked to minimising risks associated with major works, in a period of globalisation often resulting from international investment flows. Environmental impact assessment is a standard tool for considering risks involved in new construction, but certain aspects of the investment process itself may have an impact on the level of risk in particular operations. Consequently, certain efforts are being made on the international level to develop norms for international investments, particularly involving works with a high risk of accident or of significant harm to human health and the environment, such as those involving mining and other hazardous activities (see Box 39).

Responsibilities of local authorities

Within the scope of this paragraph the authorities should:

- adopt measures and regulations for the prevention and management of accidents, in accordance with international standards;

BOX 39

Governance Principles for Foreign Direct Investment in Hazardous Activities

As an immediate response to the disaster caused by the cyanide spill from the Aurul gold works into a tributary of the Tisza River in Baia Mare, Romania in February 2000, with the aim to help prevent other potential disasters where international investment plays a role, an international initiative was launched to promote dialogue on improved governance over foreign direct investment in hazardous activities, taking into account the complex root causes of mining and other disasters, and acknowledging the lack of appropriate controls. The result is the Governance Principles for Foreign Direct Investment in Hazardous Activities, a voluntary tool for risk reduction in the investment process that has been widely praised and appreciated in all contexts in which it has come up.

The principles were launched at the World Summit on Sustainable Development in Johannesburg in 2002, and were considered at the Fifth "Environment for Europe" Ministerial Conference in Kiev in 2003 (REF No: KIEV.CONF/2003/INF/18).[246] They have more recently been taken into account in the development of the new Safeguards Policy of the International Finance Corporation and are currently under consideration for pilot application in some mining investments in South Eastern Europe.

- raise awareness of local communities and professionals in the industrial sector, through training, for example, and promote cleaner technologies;
- create different incentives to encourage public entities and businesses to pursue sustainable technology;
- set up and implement a sound reporting and monitoring system;
- generate information to establish databases and information systems to facilitate the evaluation of environmental risks and disasters in mountain ecosystems; and
- ensure adequate enforcement of relevant environmental norms, making use of modern tools such as taking advantage of stakeholder interest and involvement.

Agenda 21 encourages governments, in cooperation with industry to:

- identify and implement an appropriate mix of economic instruments and normative measures such as laws, legislation and standards, that will promote the use of cleaner production, with special consideration for small and medium-sized enterprises;
- increase education, training and awareness relating to cleaner production, in collaboration with relevant national and local authorities; and
- incorporate identification, assessment, research and development, management, marketing and the application of cleaner production in policies and operations.[247]

Transboundary cooperation in the framework of industrial activities is fundamental. This is emphasised in the *OECD Guiding Principles for Chemical Accident Prevention, Preparedness and Response*,[248] which states that neighbouring countries should exchange information and consult one another with the objective of preventing accidents capable of causing transboundary damage and reducing adverse effects should such an accident occur, as well as in the IAEA Emergency Conventions, which establish an international framework to facilitate the exchange of information and the prompt provision of assistance in the event of a nuclear accident or radiological emergency.

To this end, a country in which a hazardous installation is located or planned should provide to all potentially affected countries relevant information concerning existing or planned hazardous installations, and the potentially affected countries should provide the host country with relevant information concerning the area under its jurisdiction that could be affected by transboundary damage in the event of an accident.

2. The Parties shall pursue policies aiming at introducing environmentally sound methods for the production, distribution and use of energy, which minimize adverse effects on the biodiversity and landscapes, including wider use of renewable energy sources and energy-saving measures, as appropriate.

Energy is essential to economic and social development and improved quality of life. The trend is towards increased energy consumption, especially by the industry and transport sectors, which leads to extensive production of energy. Current patterns of energy use, especially based on fossil fuels, raise serious concerns since they depend on limited resources and affect the local, regional, and global environment through land degradation, local air pollution, the acidification of water and soils, and greenhouse gas emissions. Thus, the way in which energy is generated, distributed and used needs to evolve, and sustainable options for future energy supply are crucial.

Article 10, paragraph 2 states that parties should move towards methods and technologies that lead to the minimisation of adverse impacts on the environment. The Convention suggests renewable energy sources together with energy-saving measures as appropriate methods for the achievement of this goal.

Main concepts

The energy life cycle includes production, distribution and consumption. Every step in this life cycle is the source of a wide range of health and environmental impacts:

- **Energy production** covers the extraction and use of fossil fuels, including oil, coal and gas.
- **Energy distribution** requires an extensive network of power and fuel transmission lines crossing the landscape to deliver electricity and fuel, and transport by boat, road or train is still used.
- **Energy consumption** measures the use of energy such as fuels or electricity and is a source of emissions of waste and pollutants.[249]

Environmentally sound methods such as sustainable energy, green energy or renewable energy are less harmful to the environment, enhance energy efficiency, and offer cleaner alternatives.

Renewable energy sources refers to those sources that are replenished naturally. For example, wind, biomass, hydro, solar and geothermal fall under

this category since they are non-depletable sources of energy (some versions may also include power derived from the incineration of waste), whereas fossil fuels such as oil, gas and coal are non-renewable energy resources. Electricity can be generated from solar, wind, biomass, geothermal, hydropower and ocean resources; heat can be generated from solar, thermal and geothermal sources; while bio-fuels, such as ethanol and methane, can be obtained from combinations of renewable sources.[250]

Many other renewable sources for energy production do exist and are used in some places, such as landfill gas, solid waste, ocean thermal, tidal power, and marine wave power. However, the scale of the implementation of these technologies, and thus the possibility for them to replace conventional sources, is very small. Most of those mentioned above are still in the research stage or are being implemented on an ad hoc basis as pilot projects.

Nuclear energy's claim to be green is somewhat controversial. It is possibly sustainable, arguably renewable and produces virtually no atmospheric pollution during the energy production stage. However, the risk of a nuclear plant accident and its drastic, nearly irreparable consequences raise questions about the sustainability of nuclear energy generation. In addition, no overall solution has yet been found to the problem of nuclear waste because of the high level of uncer-

BOX 40

Cultivation of energy crops — A chance for development in the rural areas of Podlaskie Voivodship, Poland

Energy crops provide a double opportunity for sustainable development in rural communities. They help reduce carbon emissions and dependence on fossil fuel imports. They also provide a new source of income for farmers in areas where traditional agriculture is in decline. However, farmers do not always have access to the knowledge or support needed to cultivate and sell novel crops. In northeastern Poland, the Podlaska Agency helped overcome this barrier by organising information days and step-by-step seminars.

The objectives of the Energy Crops Introduction Project in Podlaskie Voivodship, Poland, were:

- providing farmers with knowledge on methods of energy plant cultivation and use of biomass in the energy sector;
- demonstrating the economic potential of cultivating crops such as willow and Helianthus for the expanding green energy market;
- increasing the supply of energy crops for use in biomass power plants;
- raising farmers' awareness of energy policies, sources of financing and energy conservation as well as environmental protection; and
- encouraging plantations of energy crops on wasteland in order to provide additional environmental benefits.

During this project, 125 local growers were taught how to finance, produce and supply crops in the green energy market. Local energy entrepreneurs were also targeted. As a direct result of the education programme, 200 hectares of new energy crops were planted and an increased market was created for them. This will help the region to meet its targets on use of renewable energy resources and reduce its dependence on traditional fuels, such as coal and heating oil.

Sources: www.managenergy.net/products/R1093.htm, www.managenergy.net/download/nr207.pdf

BOX 41

Solar Panels on the Roofs – Decree of the Italian Ministry for the Environment, 2001

Through the decree Solar Panels on the Roofs, the Italian Ministry for the Environment developed a project (2000-2002) for the distribution of incentives for the construction of solar panels on building roofs. Half of the programme was dedicated to public buildings, the other half for private buildings but only for the Autonomus Province of Bolzano and Trento. The maximum ceiling for the incentives from the ministry was 75 percent of the total cost of the devices.

tainty about the future hazardousness of the products of the nuclear cell's reaction.

Energy savings contribute to a reduction in consumption, reduce the impact on the environment, and decrease costs. For example, rational use of energy is without doubt the quickest, most efficient and most cost-effective manner for reducing greenhouse gas emissions.[251] It also provides greater economic and industrial productivity as well as competitiveness.[252] It is therefore a central element in any political energy strategy that takes long-term energy challenges seriously.

Main relevant international agreements, legal instruments and initiatives

Chapter 4 of Agenda 21 on changing consumption patterns encourages greater efficiency in the use of energy and resources and a reduction of the amount of energy and materials used per unit in the production of goods and services. It also calls for intensified efforts in the use of energy and resources in an economically efficient and environmentally sound manner.

Understanding and noting the correlation between climate change and greenhouse gas emissions on the one hand, and applying the precautionary principle on the other, the **United Nations Framework Convention on Climate Change** states the need to take into account: "the possibilities for achieving greater energy efficiency and for controlling greenhouse gas emissions in general, including through the application of new technologies on terms which make such an application economically and socially beneficial."[253]

The **Kyoto Protocol** to the United Nations Framework Convention on Climate Change states that each party shall enhance energy efficiency in relevant sectors of the national economy; promote the development and increase the use of new and renewable forms of energy, of carbon dioxide sequestration technologies and of advanced and innovative environmentally sound technologies.[254]

At the EU level, energy issues are addressed by the **Council and Commission Decision 98/181/EC**, ECSC, Euratom of 23 September 1997 on the Conclusion, by the European Communities, of **the Energy Charter Treaty and the Energy Charter Protocol on energy efficiency and related environmental aspects**. The aim of the treaty is to establish a legal framework in order to promote long-term cooperation in the energy field. The treaty's most important provisions concern investment protection, trade in energy materials and products, transit and dispute settlement.

The contracting parties must also reduce, in an economically efficient manner, harmful environmental impacts occurring either within or outside its area from all operations within the energy cycle in its area, taking into proper account safety issues. The Energy Charter Protocol was adopted in accordance with the provisions of the treaty, which expressly provide for the possibility of negotiating protocols and declarations aimed at achieving the objectives and principles of the charter. Its objectives are:

- the promotion of energy efficiency policies consistent with sustainable development;
- the creation of conditions which induce producers and consumers to use energy as economically, efficiently and environmentally soundly as possible; and
- the fostering of cooperation in the field of energy efficiency.

The contracting parties undertake to establish energy efficiency policies and legal and regulatory frameworks which promote, *inter alia*, the efficient functioning of market mechanisms, including market-oriented price formation.

The **Alpine Convention** requires parties "to introduce methods for the production, distribution and use of energy which preserve the countryside and are environmentally compatible, and to promote energy-saving measures."[255] This single paragraph of the Alpine Convention dealing with energy is very similar to paragraph 2 of article 10 of the Carpathian Convention since it is a simple commitment to choose environmentally sound methods for the production and distribution of energy.

Moreover, a **Protocol on Energy** was adopted in 1998 and entered into force in 2002. The aim of the protocol is to establish guidelines for the production, distribution, transport and conservation of energy in the territories covered by the Convention. The parties to the protocol are therefore required to balance energy infrastructure with environmental protection needs through the rationalisation of the use of energy, the promotion of renewable energy sources, the use of advanced technologies and the development of EIA for any new energy facilities or for any structural change of an existing one.

Responsibilities of local authorities

In the framework of the Carpathian Convention, authorities should:

- integrate environmental considerations and priorities into energy policies;

- assess the whole life cycle of energy, including production, distribution and use;
- promote research and development in environmentally sound technologies; and
- create different types of incentives to encourage the shift to renewable energy sources.

Furthermore, strengthening international cooperation and the exchange of experiences, practices and technologies in the energy field may lead to more sustainable and efficient energy consumption.

3. Parties shall aim at reducing adverse impacts of mineral exploitation on the environment and ensuring adequate environmental surveillance on mining technologies and practices.

In comparison with many other sectors, the potential social and environmental issues associated with mining and mineral processing operations are both highly significant and complex to manage. Although mining supplies a large proportion of the raw materials necessary in the provision of infrastructure, services and goods for economic development, the mineral industry represents one of the biggest environmental and security threats.

In 1999, Nazari of the European Bank for Reconstruction and Development wrote the following: "The mining sector is a very important contributor to local and national economies, including in central and eastern Europe (CEE) and the former Soviet Union (FSU). However, in parts of CEE and the FSU, the mining sector has often been characterised by inappropriate planning, operational and post-operational practices, including a lack of an adequate regulatory framework and inadequate implementation of mine rehabilitation and closure activities. In some of the regions associated with significant mining activities, this has resulted and continues to result in significant adverse environmental and health and safety impacts and related liabilities."

In recent years, mining accidents have increased public awareness of the environmental and safety hazards of mining activities. The best example is the Baia Mare cyanide spill in Romania in January 2000, which

BOX 42

Mining for closure: Policies, practices and guidelines for sustainable mining and closure of mines

The past decade of war, conflict and transition has left South Eastern Europe with a legacy of inadequate growth and high environmental stress. The region is mainly affected by heavy industrial pollution in urban-industrial areas and pollution from the mining sector.

The publication *Mining for Closure*, produced in 2005 by the Environment and Security (ENVSEC) partners, identified pollution from mines and related industries as one of the biggest environment and security threats. This document presents a basis for action within South Eastern Europe (SEE) and within the Tisza River Basin (TRB), and is aimed to support the articulation and adoption of principles for mining policy development, capacity development and institutional development that can yield a sustainable mix of social, economic, and environmental outcomes in the SEE/TRB region.

Four key areas for action by decision makers, policy makers, and leading industrial actors are listed:

- risk reduction at abandoned or orphaned sites — actions that can facilitate the reduction of the very significant risks associated with non-operational, abandoned and/or orphaned sites where large quantities of physically and chemically unstable, and/or poorly contained mine wastes are stored;
- risk reduction at operational sites — actions that can facilitate the reduction of the very significant risks associated at sites of mining or mineral processing that are operational via enablement of the existing economic actors and industrial activities, with a key part of this being the development of an effective and efficient approach to the funding of closure, which enables mine rehabilitation;
- development of new resources and re-mining aligned with sustainable development — actions that can stimulate development of institutional capacity, a culture of risk control, and markedly improved operational procedures throughout the region to create a norm of mine planning that encompasses mine closure plans as an integral part of a project life cycle;
- fostering institutional frameworks for mining legacy management and sustainable mining and minerals processing — further development of legislative frameworks addressing mining and minerals processing legacies; clear accountability (and jurisdictional remit) for the environmental aspects of mining and mineral processing activities in the region; and the further development of institutions supporting transboundary risk management and/or disaster response.

Source: www.envsec.org/see/pub/Mining%20for%20Closure1.doc

has been called the worst ecological disaster in the region since Chernobyl.[256] Since then, attitudes towards mining have changed and mine planning, mine closure or rehabilitation practices and sustainable mine operations are improving.

As part of this trend, the Carpathian Convention calls for the evolution of management policies and practices, and for the introduction of technologies that allow mining to take place with minimum environmental harm.

Main concepts

Mining is a large global industry. The term **mining** includes operations for the extraction of valuable minerals or other geological materials from the earth. Mineral exploitation may cause severe environmental degradation including:

- energy and water consumption;
- air, water and land pollution;
- landscape alteration;
- soil erosion;
- destruction of river banks; and
- health and safety hazards.[257]

Today, the challenge for the mining industry is to find, extract and process mineral and metal resources with the least possible disruption of the environment.

Technologies and practices are evolving, making mining more efficient while improving safety and sustainability. However, there is no single solution as conditions (minerals/metals, location, size, infrastructures, etc.) differ from one quarry to another.

Good practices and guidelines exist, especially in countries such as Australia[258] and Canada.[259] These advances generally lead to sustainable mining, through economically, socially and environmentally responsible practices (see box 42).

Environmental surveillance, in the present context, refers to monitoring systems designed to assess the environmental performance of mining operations. This means close, consistent, routine surveillance of activities and instalments over a long period of time. Besides increased awareness and information among the public, environmental surveillance offers the opportunity to take corrective action when deviations are noted.

Main relevant international agreements, legal instruments and initiatives

The Baia Mare accident gave rise to a review of the applicable EC rules on transboundary accidents and liability.

In 2002, the World Summit on Sustainable Development, through the **Johannesburg Plan of Implementation**, corrected an oversight at the 1992 Rio Conference by addressing the sound management of minerals and metals. This summit was significant for resulting in a truly global partnership to implement an integrated and strategically focused approach to the environmental and social challenges to sustainable mineral development. The industry was challenged to improve its environmental stewardship and to decrease energy and water demand. Governments were challenged to foster regulatory regimes that promote sustainable mineral development, including the development of economic policies that internalise the environmental costs of production. Environmental and social NGOs were challenged to become partners with industry and governments in the transition to sustainable mineral development.[260]

A **Safety and Health in Mines Convention** also exists.[261] Besides safety and health policies for workers, this International Labour Organization Convention, adopted in 1995, foresees certain measures to monitor and assess risks as well as to prepare an emergency plan for industrial and natural disasters.

Article 1 of **Directive 2006/21/EC of the European Parliament and of the Council on the Management of Waste from the Extractive Industries**[262] provides measures, procedures and guidance to prevent or reduce, as far as possible, any adverse effects on the environment, in particular water, air, soil, fauna and flora and landscape, and any resultant risks to human health brought about as a result of the management of waste from extractive industries. The directive deals with the management of waste resulting from the prospecting, extraction, treatment and storage of mineral resources and the working of quarries. It is intended to complement both the directive on the control of major-accident hazards involving dangerous substances, as well as a best available technique document covering the management of waste rock and tailings from mining activities.

Other treaties of relevance to mining activities are:

- The 1979 **Convention on Long-Range Transboundary Air Pollution** (LRTAP), with four protocols setting specific emissions limits on sulphur dioxide (1985, 1994), nitrogen oxides (1988, 1998) and volatile organic compounds (1991). It provides substantive restrictions on some of the basic mineral beneficiation pollutants in northern hemisphere countries (EU, United States, Canada, Russia, etc.). The **LRTAP Heavy Metals Protocol** is of serious concern to the metal mining/smelting industry, both because of its air quality restrictions and because it could ban certain metal production processes and products when their use or disposal could lead to transboundary air pollution.

- The 1985 **Vienna Convention for the Protection of the Ozone Layer**, as amended by the 1987 **Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)** also has long-term implications for the mining industry.

Responsibilities of local authorities

Governments at the appropriate level, with the support of the relevant international and regional organisations, should:

- promulgate and implement legal frameworks for large volume waste, mine closure and abandoned mines;
- ensure the capacity to review permits and enforce regulations;
- promote policies that would provide incentives for the use and transfer of environmentally friendly technologies;
- strengthen existing institutions or establish new ones at local, national and regional levels in the mining industry;
- ensure a high level of technical knowledge among staff, notably by providing adequate training;
- assess the potential impact of mining on the environment;
- monitor and establish early warning systems, and provide information; and
- engage proactively with proposed investment projects in the mining sector in order to attain the maximum benefits to the community from the proceeds and to reduce risks to the maximum extent possible.

Considering the risks posed by mining, **transboundary cooperation** is essential. It can be achieved through mechanisms for information exchange among national and regional institutions and firms.

Linkages with other articles of the Convention

Article 10 is directly linked to article 4 of the Convention, which states that parties should take appropriate measures to integrate the objective of conservation and sustainability into sectoral policies, among others energy, industry and mining activities.

Article 5 suggests that, in developing spatial planning policies and programmes, particular attention should be paid to energy infrastructure and services and, indirectly, to their impact on the land and its resources. It also calls for consideration of the risk of transboundary pollution. A spatial approach is therefore decisive in the prevention of pollution.

Finally, article 12 states that parties should develop systems for early warning, monitoring and the assessment of natural and human-made environmental risks and hazards. This provision is of relevance regarding the environmental risks posed by industry, energy and mining activities.

Chapter J
Article 11

Article 11 – **Cultural heritage and traditional knowledge**

The Parties shall pursue policies aiming at preservation and promotion of the cultural heritage and of traditional knowledge of the local people, crafting and marketing of local goods, arts and handicrafts. The Parties shall aim at preserving the traditional architecture, land-use patterns, local breeds of domestic animals and cultivated plant varieties, and sustainable use of wild plants in the Carpathians.

Heritage represents humankind's legacy from the past, an irreplaceable source of life and inspiration for present and future generations. The main international text for the maintenance, preservation and promotion of mankind's heritage is the Convention for the Protection of the World Cultural and Natural Heritage (World Heritage Convention), adopted by the United Nations Educational Scientific and Cultural Organization (UNESCO) in 1972.[263]

The international community recognises that the world's cultural and natural heritage are threatened by globalisation, low awareness of the value of cultural heritage, passive management and lack of financial support, leading to the disappearance of sites, monuments and traditions. Conversely, traditions and heritage help to define the cultural identities of individuals and groups, and convey social benefits. The identification, protection, preservation and promotion of cultural heritage as well as traditional practices and knowledge are today among the most fundamental endeavours of humankind.

Article 11 requires parties to pursue policies to preserve and protect cultural heritage and traditional knowledge, referring explicitly to particular forms of cultural heritage and traditional knowledge, discussed below.

The Parties shall pursue policies aiming at preservation and promotion of the cultural heritage and of traditional knowledge of the local people, crafting and marketing of local goods, arts and handicrafts.

Main concepts

The notion of **cultural heritage** has evolved over time. Today it is understood that cultural heritage can take both tangible and intangible forms. There is a great diversity of cultural heritage in the form of historical monuments, buildings and art objects, or music, dance, craft technique, ritual, oral traditions and other local knowledge transmitted from generation to generation.

According to article 1 of the World Heritage Convention (WHC), the following shall be considered as cultural heritage:

a) monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;

b) groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;

c) sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

These elements represent **tangible forms of cultural heritage** since they are physical artefacts left by preceding cultures and civilisations.[264]

Article 2 of the Convention for the Safeguarding of the Intangible Cultural Heritage defines **intangible cultural heritage** as "the practices, representations, expressions, knowledge, skills — as well as the instruments, objects, artefacts and cultural spaces associated therewith — that communities, groups and, in some cases, individuals recognize as part of their cultural her-

itage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity."

Traditional knowledge has been defined under the Convention on Biological Diversity (CBD) in article 8 (j) as follows: the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry.

Thus, traditional knowledge is one form of intangible cultural heritage.

The text of the Carpathian Convention uses the well-worn terms "cultural heritage" and "traditional knowledge," which can be interpreted to correspond to the terms as defined in the referenced texts. It goes further, however, by referring specifically thereafter to "crafting and marketing of local goods, arts and handicrafts." While **arts** can exist independent from traditional knowledge, generally **handicrafts** are tangible forms of cultural heritage based on traditional knowledge. The specific reference to local crafting and marketing emphasises some of the types of cultural heritage that are particularly associated with mountain areas. The reasons behind this construction are not clear, but it should not be taken to imply that other forms of cultural heritage and traditional knowledge associated with mountain areas, such as music, traditional dress, dance or ritual, hold less value or are less deserving of protection.

The Convention for the Safeguarding of Intangible Cultural Heritage defines "safeguarding" as "measures aimed at ensuring the viability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, particularly through formal and non-formal education, as well as the revitalization of the various aspects of such heritage."[265]

The Carpathian Convention, which was negotiated before the entry into force of the Intangible Cultural Heritage Convention, uses the terms "preservation" and "promotion" of cultural heritage and traditional knowledge.

There are numerous **preservation** mechanisms for cultural heritage, but an important one is the inscription on UNESCO lists: World Heritage List, Representative List of the Intangible Cultural Heritage of Humanity, and List of Intangible Cultural Heritage in Need of Urgent Safeguarding. Sites inscribed on the World Heritage List benefit from international protection and are selected by the World Heritage Committee from national inventories of property forming part of the cultural and natural heritage. World Heritage Sites are considered by the international community as being of outstanding universal value. The protection, conservation and rehabilitation of these sites is the concern of all parties but they remain the property of the country on whose territory the site is located.[266]

In each of the Carpathian countries there are several sites inscribed on the World Heritage List, but few of them are located in the Carpathian region. Since several mountain areas across the world have been proclaimed World Heritage sites and included in the World Heritage List, this option should also be investigated for specific areas of the Carpathian Mountains. However, at the national level, there are various sites or forms of cultural heritage which are of great interest, importance or value, and deserving of protection, but which are not included on the UNESCO lists (see box 43). States should ensure that their national legislation extends safeguarding measures to all forms of cultural heritage.

Promotion is an additional requirement that obliges parties to contribute proactively to the preservation of cultural heritage through taking appropriate measures. These may include advertising, organising events and ensuring public awareness of the value of various forms of cultural heritage and traditional knowledge.

All of these general obligations could be further defined through a thematic protocol. It is expected that a future protocol will take inspiration from the existing international agreements, namely the UNESCO conventions and the CBD.

Main relevant international agreements, legal instruments and initiatives

Two main international agreements deal with tangible and intangible cultural heritage:

- The **Convention for the Protection of the World Cultural and Natural Heritage** (World Heritage Convention) aims to designate sites that are of outstanding universal value to humanity and as such are inscribed on the World Heritage List to be protected for future generations.
- The **Convention for the Safeguarding of the Intangible Cultural Heritage**, adopted in 2003

and which entered into force on April 20, 2006, aims to ensure respect for the intangible cultural heritage of the communities, groups and individuals concerned, to raise awareness at the local, national and international levels of the importance of the intangible cultural heritage, and to provide for international cooperation and assistance.

These UNESCO conventions have established protection mechanisms that are quite similar. The core element of both agreements is the establishment of inventories and lists of world cultural heritage. They both require parties to take specific safeguarding measures and they put in place a system of international cooperation and assistance, along with a funding mechanism, all of which are essential for the effective protection and conservation of the world cultural heritage.

The **Convention on Biological Diversity** (CBD), article 8 (j) requires parties to "respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices."

The seventh meeting of the Conference of the Parties of the CBD adopted the Akwe: Kon Voluntary Guidelines, a non-binding document for the conduct of cultural, environmental and social impact assessment regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities.[268] State parties are encouraged to investigate ways to incorporate the guidelines into national legislation and policies. It is expected that CBD will place a strong focus on this topic in the near future, and all Carpathian countries, as parties to the CBD, would need to put into practice the measures agreed in this forum.

All Carpathian countries have ratified the WHC and the CBD. The Intangible Cultural Heritage Convention has been ratified only by Romania, Hungary and Slovakia.

BOX 43

Living Human Treasures

Living Human Treasures is a UNESCO programme aimed at encouraging parties to give official recognition to "exceptionally talented tradition bearers and craftspeople and to encourage the transmission of their knowledge, know-how and skills to the younger generations." UNESCO has published guidelines for the establishment of national Living Human Treasures systems.[267]

France, for example, developed a similar system through the establishment of the title of "master of art" as well as the Art Crafts Council in 1994. The objective is to protect and develop rare and exceptional know-how held by professionals of art crafts in the private sector. Masters of arts are selected for two years, based on defined criteria. Once selected, they have the duty to transfer their know-how to an apprentice over a period of three years. The master of art receives an early allocation from the Ministry of Culture during this period.

Source: http://portal.unesco.org/culture/en/ev.php- URL_ID=21868&URL_DO=DO_TOPIC&URL_SECTION=201.html

BOX 44

Office for the Promotion of Linguistic Local Minorities, Italy

During the 10 years of the application of the Alpine Convention in Italy, since its entering into force, many important measures for the promotion and protection of different aspects of the cultural heritage of local people have been endorsed by Italy, at the national and regional levels.

One of the most important is the Office for the Promotion of Linguistic Local Minorities, created in 2002 by the Autonomous Province of Trento. Its duty is the coordination of all the efforts that the Province of Trento endorses in the promotion of these linguistic minorities in the scholastic, cultural and economic fields, in order to preserve the tradition of different dialects that are endangered by the globalisation process and by the depopulation of certain mountainous regions. This office collects all of the measures adopted for the protection of linguistic minorities, translates them into German and Latin, and consults local authorities on the laws concerning this field.

The **Alpine Convention**, article 2, requires parties to take appropriate measures: "to respect, preserve and promote the cultural and social independence of the indigenous population and to guarantee the basis for their living standards, in particular environmentally sound settlement and economic development, and promote mutual understanding and cooperation between Alpine and extra-Alpine populations."

The emphasis of article 2 of the Alpine Convention is a bit different from that of Article 11 of the Carpathian Convention. While the latter concentrates on the conservation and promotion of the knowledge of local people, the former has a wider scope including the promotion of better living standards, with particular attention towards the interaction between local populations and their culture, and towards the economic development of these populations. The reference point is concern for the rights of indigenous populations rather than cultural heritage per se. A future thematic protocol to the Carpathian Convention could consider indigenous populations and elements such as the safeguarding and improvement of linguistic specificities (minority languages).

Responsibilities of local authorities

From the obligations deriving from existing agreements dealing with cultural heritage, the main steps to be taken for the preservation and protection of cultural heritage by the countries are listed below. Local authorities will play a significant role in implementing these measures:

- Prepare an inventory of tangible and intangible cultural heritage, with the participation of local communities, groups and non-governmental organisations. Such lists should be drawn up at the national level but based on proposals coming from the local and regional levels. It may also be envisaged that such lists are maintained at the local and regional levels and therefore require a larger involvement of local and regional authorities. The Operational Guidelines for the Implementation of the WHC[269] provides that "participation of local people in the nomination process is essential to make them feel a shared responsibility with the State in the maintenance of the site."
- Take appropriate legal, scientific, technical, administrative and financial measures necessary for the protection, conservation, presentation and rehabilitation of cultural heritage. Such measures include: setting up an appropriate legislative and institutional framework, providing for clear protection status, imposing necessary restrictions, designating competent authorities, setting up management plans for conservation of tangible cultural heritage, etc.
- Adopt a general policy aimed at promoting the function of cultural heritage in society and at integrating the safeguarding of such heritage into planning programmes.
- Designate or establish one or more competent bodies with the appropriate staff and the means to discharge their functions for the safeguarding of the cultural heritage.
- Foster scientific, technical and artistic studies and research with a view to effective safeguarding of intangible cultural heritage, or in the case of natural and tangible cultural heritage, with a view to counteracting the dangers that threaten this heritage.
- Foster the creation or strengthening of institutions for training in the management of cultural heritage and transmission of intangible heritage through forms and spaces intended for the performance or expression thereof.
- Ensure access to cultural heritage respecting customary practices.
- Establish documentation institutions for the cultural heritage and facilitating access to them.

These safeguarding measures[270] need to be accompanied by measures to promote cultural heritage through various awareness-raising, educational and capacity-building activities, ensuring wide public participation and strictly monitoring any dangers and threats to cultural heritage. Campaigns such as open doors of cultural monuments or festivals dedicated to a specific heritage site are examples of activities to be undertaken at the local level.

Transboundary cooperation is an important element to effectively safeguard cultural heritage, requiring all states to exchange information and experience, implement joint initiatives, and refrain from any action which might damage or endanger the cultural heritage situated on the territory of another state.[271] Transboundary cooperation is highlighted in article 6, paragraph 1 of the WHC: "[…] the States Parties to this Convention recognize that such heritage constitutes a world heritage for whose protection it is the duty of the international community as a whole to co-operate."

When a cultural heritage site falls on the territory of more than one state, the countries should cooperate and coordinate to ensure a uniform and effective safeguarding system. The World Heritage List includes 23 shared sites, and UNESCO places special emphasis on individual geographic regions (e.g. for the Pacific region, the World Heritage — Pacific 2009 Programme has been developed to strengthen a collaborative sub-regional approach to implementation and to promote transboundary and/or serial marine and terrestrial nominations including serial

cultural landscape projects).[272] International cooperation should also be applied to protect intangible cultural heritage, such as traditions shared by populations across borders.

The Parties shall aim at preserving the traditional architecture, land-use patterns, local breeds of domestic animals and cultivated plant varieties, and sustainable use of wild plants in the Carpathians.

The second part of article 11 places special emphasis on certain forms of cultural and natural heritage related to architecture, land use, animal husbandry, horticulture and botany.

Main concepts

Both traditional architecture and land use patterns fall within the scope of the tangible cultural heritage concept as defined by the WHC. The WHC and the Convention for the Protection of Architectural Heritage in Europe[273] refer only to the terms "architectural works" and "architectural heritage" without any reference to traditional architecture. Nevertheless, the Convention for the Protection of the Architectural Heritage of Europe requires states to "foster, as being essential to the future of the architectural heritage, the application and development of traditional skills and materials."[274]

This term would need to be defined by a future thematic protocol to the Carpathian Convention to ensure a clear delimitation of this concept. Meanwhile local authorities should understand **traditional architecture** as architecture which makes use of traditional skills, knowledge and materials.

Land use patterns are incorporated in the concept of cultural landscape. As explained in the *Operational Guidelines for the Implementation of the WHC*: "cultural landscape often reflects specific techniques of sustainable land-use, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature."

Thus, particular examples of traditional architecture and land use should be preserved. Perhaps more importantly, the objective is to maintain local traditions in building practices or for the exploitation of land resources, leading to comparisons with the concept of "living museum."

The Carpathian region fosters a rich variety of **domestic animals and cultivated plants**, defined by the CBD as species in which the evolutionary process has been influenced by humans to meet their needs. Specific measures are needed to **preserve** relevant practices in the face of various threats related to modernisation of agriculture, or economic pressures leading to the abandonment of areas where such practices are employed. Attention must also be paid to the preservation of rare varieties for which it is feared that the decline of the human population in mountain areas and globalisation might lead to their disappearance.

BOX 45

Conservation planning in Bran, Romania

The International Network for Traditional Building Architecture & Urbanism and the Architecture Faculty of Timisoara, Romania, ran a seven-day *charrette*[275] in the village of Bran, producing a landscape protection plan for the area. The plan was designed to be used by the local authorities in producing and enforcing a wider protection programme for the village, which attracts thousands of tourists every year.

Over the last 10 years the number of new buildings, mostly designed for tourists, has increased significantly. However, the development was rather chaotic and lacked any regard for the specific features of the mountain architecture of Bran. The focal centre of the Village is Bran Castle, built in the 14th century.

The workshop ended with a set of proposals on the protection of the landscape of the area. The local authorities played an active role and expressed great interest in the work undertaken by the international team of practitioners. The participants analysed the landscape of the countryside and the way it has been used. A preliminary protected area was designated, with some limitations given the lack of detailed mapping. The tourism profile of Bran is based on guesthouses. As Bran is an outstanding area of beauty, the participants tried to develop possible walking tour maps — designed for different levels of fitness. Such tours will benefit both the tourists, as they will see more of the area, and the local economy, dependent mostly on tourism.

The local authorities of Bran have welcomed the conclusions of the final report and have decided to use the outcomes of the workshop as a reference for future legislation on the protection of the landscape of the area.

Source: www.intbau.org/Branworkoutcome.htm

The Convention also requires the **sustainable use**[276] **of wild plants**. In the case of wild plants the aim is to ensure their reasonable use to prevent their over-exploitation and the possible extinction of species.

Main relevant international agreements, legal instruments and initiatives

The **Convention on Architectural Heritage** defines the obligations of states to preserve architectural heritage and therefore offers guidance for the implementation of the Carpathian Convention. Parties must take specific measures to protect existing monuments, groups of buildings and sites considered as architectural heritage. Such measures include the setting up of an adequate surveillance and authorisation system to prevent any physical harm to these buildings, providing financial support for maintenance and restoration of architectural heritage, supporting scientific research, establishing an effective enforcement system, and allowing access to protected properties, while taking into account the safeguarding objectives, developing public awareness, promoting training, etc.

The **Convention on International Trade in Endangered Species of Wild Fauna and Flora** (CITES)[277] regulates international trade in, notably, wild plants. Through its three appendices, the convention grants varying degrees of protection to more than 30,000 plant and animal species.

Responsibilities of local authorities

The first step towards preserving traditional architecture and land use patterns is an inventory at national and regional/local level to identify all relevant sites. Once identified, special safeguarding measures should be put into place. Regarding species, local authorities should:

- assess the actual situation of endangered breeds and seeds;
- design specific conservation measures for individual types of breeds and seeds;
- foster research;
- develop incentive programmes for farmers;
- develop good marketing systems of products derived from domestic animals and cultivated plants; and
- impose quotas and seasonal restrictions on collection of wild plants.

Public participation, awareness raising and education[278] are an important part of the measures to be taken to preserve the various forms of heritage protected under this provision of the convention. Indeed, preserving traditional architecture and land use patterns requires also maintaining the interest of local communities in preserving and using their traditions. Therefore, another measure should target the establishment of support programmes targeted at local communities.

Linkages with other articles of the Convention

Articles 3 and 5: Preservation of traditional land-use patterns can be ensured by the integrated land resources management approach, and spatial planning policies can give particular attention to conservation and sustainable use of natural and cultural heritage.

Article 4: Preservation of local breeds of domestic animals and cultivated plant varieties, and sustainable use of wild plants can be ensured by conservation, sustainable use and restoration of biological diversity throughout the Carpathians.

Article 7: Reflection of traditional land-use in agri-environmental programmes will contribute to preservation. Sustainable mountain forest management practices and designation of protected areas in natural, especially virgin forests will contribute to sustainable use of wild plants.

Article 9: Sustainable tourism providing benefits to the local people will contribute to preservation and promotion of traditional knowledge of the local people.

Article 12: Risk assessment, EIA and SEA undertaken in a timely and proper manner will contribute to the preservation of cultural heritage, traditional architecture, land-use patterns, local breeds of domestic animals and cultivated plant varieties, and sustainable use of wild plants in the Carpathians.

Article 13: Awareness raising, education, access to information on the protection and sustainable development of the Carpathians and public participation will contribute to preservation and promotion of the cultural heritage and traditional knowledge of the local people in the Carpathians.

Chapter K
Article 12

Article 12 – **Environmental assessment/information system, monitoring and early warning**

1. The Parties shall apply, where necessary, risk assessments, environmental impact assessments, and strategic environmental assessments, taking into account the specificities of the Carpathian mountain ecosystems, and shall consult on projects of transboundary character in the Carpathians, and assess their environmental impact, in order to avoid transboundary harmful effects.
2. The Parties shall pursue policies, using existing methods of monitoring and assessment, aiming at promoting:
a) cooperation in the carrying out of research activities and scientific assessments in the Carpathians,
b) joint or complementary monitoring programmes, including the systematic monitoring of the state of the environment,
c) comparability, complementarity and standardization of research methods and related data-acquisition activities,
d) harmonization of existing and development of new environmental, social and economic indicators,
e) a system of early warning, monitoring and assessment of natural and man-made environmental risks and hazards, and
f) an information system, accessible to all Parties.

International environmental instruments often contain requirements to use specific techniques and procedures, such as environmental assessment, information systems, monitoring and early warning, as necessary measures for full implementation. Such techniques and procedures, being obligations themselves, have the role of mandatory tools for meeting the other obligations of multilateral environmental agreements. Although they are "mere" tools or mechanisms, the implementation of the whole agreement depends on their use.[279]

The development of norms in the fields of national and international environmental law has resulted in a great variety of such techniques and procedures, many of which are listed in the Carpathian Convention: risk assessment; environmental impact assessment (EIA); strategic environmental assessment (SEA); joint monitoring programmes; environmental, social and economic indicators; early warning systems; information systems; and others. All of these are complex techniques usually requiring the involvement of local authorities, technical experts and the public.

1. The Parties shall apply, where necessary, risk assessments, environmental impact assessments, and strategic environmental assessments, taking into account the specificities of the Carpathian mountain ecosystems, and shall consult on projects of transboundary character in the Carpathians, and assess their environmental impact, in order to avoid transboundary harmful effects.

Main concepts

Risk assessment, EIA and SEA are impact assessment tools that seek to ensure adequate and timely information on the likely environmental consequences of planned actions, such as the undertaking of development projects or the adoption of plans or programmes. These techniques help in the establishment and investigation of viable alternatives and in mitigat-

ing potential harm. Impact assessment tools are of help in reaching the goal of sustainable development since they are aimed at ensuring that the environmental, social and economic benefits and costs of the planned actions are taken into consideration, and that the most balanced and least harmful option is found.

Risk assessment, as applied in the Carpathian Convention, is the analysis of potential adverse impacts on the environment and health resulting from the exposure of nature and the human population to environmental hazards. The criteria for assessing the risk are the probability and magnitude of the potential harm. The risk assessment procedure is complex and comprises several steps:

1. **Hazard identification** is the analysis of an environmental situation with respect to the potential exposure to environmental hazards.
2. **Dose-response assessment** is the identification of the relationship between the level of harm potentially received and the incidence of an adverse effect.
3. **Exposure assessment** is the measurement of the intensity, frequency, or duration of exposure to harm that is currently found in the environment, or that may be present in the future.
4. **Risk characterisation** is the estimation of the inci-

BOX 46

Bridge over the Danube River between Vidin (Bulgaria) and Calafat (Romania)

The project to build the Vidin-Calafat Bridge over the Danube River was proposed by the Bulgarian Ministry of Transport and Communications, but Bulgaria and Romania will jointly operate and maintain the bridge. Construction of the 2-kilometre link began in 2005 and is expected to be completed in 2008, at a total cost of EUR 230 million.

Institutional arrangements

In June 2000, the two countries signed an agreement on the project's technical, financial, legal and organisational aspects. The bilateral agreement specified that an environmental impact assessment (EIA) should be carried out jointly, taking into account Bulgarian, Romanian and European Union legislation. Both countries are parties to the Espoo Convention on EIA in a Transboundary Context.

The agreement established a Joint Committee to oversee the project, chaired by the two countries' deputy transport ministers and including representatives of their environment ministries. Nine working groups were also established at the expert level, including the environmental Joint Working Group (JWG), which coordinated environmental procedures. In addition, project implementation and management units (PIMUs) were established within each of the two countries' competent authorities — the Romanian Ministry of Transport Construction and Tourism and the Bulgarian Ministry of Transport and Communications.

The location of the bridge was selected through a route selection study — examining environmental, social and economic aspects — carried out in the 1990s. A study completed in July 2001 determined the optimal location of the bridge.

EIA procedure

Bulgaria has a one-step EIA procedure at the beginning of the project design process, whereas Romania has EIA in the framework of the permitting process (i.e. before obtaining the construction permit). To resolve this difference, and to provide a stronger overall EIA, the transboundary EIA took place in two stages:

- a preliminary EIA according to Bulgarian legislation; and
- a final EIA according to Romanian legislation.

Experts from an international consulting company led the EIA team, which also included local consultants from Bulgaria and Romania. The preliminary EIA was completed in August 2001 and a time limit for receiving written comments from the public and other concerned parties in both countries was established.

The competent authorities in Bulgaria and Romania notified their own public right at the start of the EIA process and public consultations took place in both countries.

During this public participation procedure the public and NGOs made comments on mitigation measures to reduce environmental impacts and other improvements.

Based on the preliminary EIA report, and taking into account the results from the public hearings, the Bulgarian Ministry of Environment and Water issued its EIA decision in February 2002. The decision stipulated specific conditions, as measures for preventing or limiting significant adverse impacts on the environment.

Source: www.unece.org/env/eia/publications.html#factsheets

dence of an adverse effect under the conditions of exposure described in the exposure assessment.[280]

In assessing such factors, policymakers should determine the acceptable level of risk. Alternatives to the action should be identified and compared, along with risk-management strategies. Once a risk-management strategy is chosen, it must be implemented, regularly reviewed, and, if necessary, adjusted. A risk assessment is not a static document — it needs constant monitoring and periodic review as activities and technologies evolve and unpredictable events might take place.

Environmental impact assessment is defined by the Espoo Convention[281] as a national procedure for evaluating the likely impact of a proposed activity on the environment. This procedure ensures that the environmental implications of decisions are identified before the decisions are made and solutions for potential negative environmental effects are proposed for decision makers. It also ensures that environmental considerations are explicitly addressed and taken into account in the decision-making process. Indeed, article 3 of EU Directive 85/337/EEC lists fauna and flora, soil, water, air, climate, landscape and cultural heritage as factors for which direct and indirect effects need to be identified, described and assessed. The EIA procedure includes a number of stages, which must be followed precisely in order to obtain reliable results. They include:

1. screening, to determine whether or not an EIA is required and, if so, at what level of detail;
2. scoping, to identify the issues and impacts likely to be significant and to establish terms of reference for the EIA;
3. examination of alternatives, to establish the most environmentally sound option for achieving the objectives of a proposal;
4. impact analysis, to identify the likely environmental, social and other related effects of the proposal;
5. mitigation and impact management, to establish the measures necessary to prevent and minimise predicted adverse impacts and, where appropriate, to incorporate these into an environmental management plan or system;
6. evaluation of significance, to determine the relative importance and acceptability of residual impacts;
7. preparation of environmental impact statement (EIS), to report the impacts of the proposal, the proposed measures for mitigation, the significance of the effects, and the concerns of the public and the communities affected by the proposal;
8. review of the EIS, to determine whether the report complies with its terms of reference, provides a satisfactory assessment of the proposal and contains the information required for decision making;
9. decision making, to approve or reject the proposal and establish the terms and conditions for its implementation; and
10. post-project analyses, to ensure that the terms and conditions of approval are met, to monitor the impacts of the proposal and the effectiveness of the mitigation measures, and to monitor the process evaluation in order to optimise environmental management.[282]

It should be noted that the involvement of the public concerned is possible and desirable at all stages of the EIA. More details on public participation can be found in Chapter I.L of the Handbook.

Strategic environmental assessment is a comprehensive and integrated process for evaluating certain plans, policies and programmes, or legislation along with their social and economic impacts early in the decision-making process. European Union Directive 2001/42/EC requires national, regional and local authorities in member states to carry out strategic environmental assessment on certain plans and programmes that they promote.[283]

Although SEA is based upon the same principles as EIA, it is an advanced, pro-active planning tool for environmental management of regions or sectors, whereas EIA applies to specific proposed activities.

For both EIA and SEA, ways to deal with new knowledge or changes of circumstances need to be taken into account. The need for a triggering event, especially for EIA, and the resulting potential obsolescence of EIA determinations after the passage of time, has led some jurists and observers to posit a principle of continuing EIA that requires revision of decisions based on new information or circumstances.[284] Some progressive national legislation on EIA includes various triggering events for new EIA procedures, including ownership changes or the passage of time.

Environmental impact of projects of a transboundary character covers, according to article 1 of the Espoo Convention: "impacts on the environment within an area under the jurisdiction of a [State] caused by a proposed activity the physical origin of which is situated wholly or in part within the area under the jurisdiction of another [State]."

The Carpathian Convention contains the requirement to cooperate in the form of consultations on projects of a transboundary character in the Carpathians and to assess their environmental impact, in order to avoid harmful transboundary effects. Taking into account the fragile mountain ecosystems and the number of transboundary

environmental factors (flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures, including the interaction among these factors), transboundary cooperation and the involvement of stakeholders from neighbouring countries need to be intense and widespread especially while conducting risk assessment, EIA and SEA.

Main relevant international agreements, legal instruments and initiatives

The obligation to assess the potential effects of activities, plans and programmes, policies and legislative acts has undergone development from separate provisions in international instruments relating to different environmental sectors, to entire treaties dedicated to it. Separate provisions requiring the assessment of potential impacts can be found in article 206 of the **United Nations Convention on the Law of the Sea**[285] (1982), article 4 of the **United Nations Framework Convention on Climate Change**[286] (1992), and article 14 of the **Convention on Biological Diversity**[287] (1992). Annex III of the **Cartagena Protocol on Biosafety**[288] (2000) is dedicated exclusively to risk assessment.

The **Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)** sets out the obligation to assess the environmental impact of certain activities at an early stage of decision making. It also lays down the general obligation on states to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across borders and establishes concrete procedures to follow. With the exception of Serbia, all the Carpathian states are parties to the Espoo Convention.

The Espoo Convention expressly requires that parties "take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities." Therefore, EIA must be conducted at an early stage prior to a decision on a proposed activity being made. Specifically, the state initiating the proposed action must notify every party "which […] may be an affected party as early as possible and no later than when informing its own public about that proposed activity."

In preparing its EIA, the party of origin is required by Appendix II of the Espoo Convention to address a number of considerations. At a minimum, an EIA must contain:

- a description of the proposed activity and its purpose;
- a description of reasonable alternatives to the proposed activity, including a "no-action" alternative;
- a description of the environment likely to be significantly affected by the proposed activity and its alternatives;
- a description of the potential environmental impact of the proposed activity and its alternatives, as well as an estimation of their significance;
- a description of mitigation measures;
- an explanation of the predictive methods and relevant environmental data employed;
- an identification of uncertainties and gaps in knowledge;
- an outline for monitoring and management programmes; and
- a non-technical summary including a visual presentation of maps and graphs.

The **Protocol on Strategic Environmental Assessment**[289] (Kiev, 2003), once in force, will require parties to evaluate the environmental consequences of their official draft plans and programmes, including those related to the Carpathian region. The protocol also provides for a possibility to assess environmental effects of policies and legislation. It will also ensure consultations with not only environmental, but also health authorities in various stages of SEA and extensive public participation in government decision making in a number of development sectors.

The provisions of the **Aarhus Convention** (1998) in relation to public participation in the decision-making process on specific activities supplement the Espoo Convention and can be widely applied in the Carpathian region.[290] Although the SEA Protocol is not in force, members of the public may participate in the preparation of plans, programmes, policies and legislative acts by exercising their rights under the Aarhus Convention. Although participation in SEA is schematic under the Aarhus Convention, the implementation of its provisions with regard to issues covered by the Carpathian Convention may be beneficial to the Carpathian region.

Principle 17 of the **Rio Declaration on Environment and Development (1992)** states that EIA, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and that are subject to the decision of a competent national authority.

Council Directive 85/337/EEC of 27 June 1985 on the Assessment of the Effects of Certain Public and Private Projects on the Environment as Amended by Directives 97/11/EC and 2003/35/EC[291] establishes a procedure ensuring that environmental consequences of projects are identified and assessed before authorisation is given. The public can give its opinions and consultation results

have to be taken into account during the authorisation procedure of the project. The public is informed of the decision afterwards.

Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the Assessment of the Effects of Certain Plans and Programmes on the Environment[292] aims at ensuring that environmental consequences of certain plans and programmes are identified and assessed during their preparation and before their adoption. The public and environmental authorities are involved in the process: they can give their opinion and consultation results are integrated and taken into account in the course of the plan or programme elaboration and adoption procedure.

Responsibilities of local authorities

Local authorities play an important role in the consultations and approvals of EIA and are responsible for the development of many plans, programmes and other strategic documents. To help achieve sustainable development, local authorities require particular tools in order to understand the likely effects of their development planning. Strategic environmental assessment is becoming an important instrument in helping to achieve sustainable development in local and regional planning and policy making.

In the framework of the Carpathian Convention, local authorities should take action to help ensure:

- public participation in all stages of the environmental assessment process;
- general awareness of environmental protection and sustainable development issues, especially during project preparation, plan or programme elaboration by developers, through public reporting of assessment and decisions, debates, training, etc;
- continuous and effective cooperation between the stakeholders involved in development, planning, assessment and decision making.

They should more specifically develop action plans for sustainable development providing environmental objectives as benchmarks to environmental impacts of strategic actions, and identify criteria and mechanisms to evaluate policies, plans and projects.

2. The Parties shall pursue policies, using existing methods of monitoring and assessment, aiming at promoting:
a) cooperation in the carrying out of research activities and scientific assessments in the Carpathians,
b) joint or complementary monitoring programmes, including the systematic monitoring of the state of the environment,
c) comparability, complementarity and standardization of research methods and related data-acquisition activities,
d) harmonization of existing and development of new environmental, social and economic indicators,
e) a system of early warning, monitoring and assessment of natural and man-made environmental risks and hazards, and
f) an information system, accessible to all Parties.

The formulation of environmental laws and policies, as well as their successful implementation, requires the gathering of reliable information and its continuous monitoring and assessment. In order to protect and manage the environment in a sustainable way, monitoring, assessment and reporting are employed in international and national legal systems and are widely required by existing MEAs. The combined application of these methods in the Carpathian region will undoubtedly be beneficial for the implementation of the Convention. Transboundary cooperation is required with regard to all the methods mentioned in this paragraph, requiring inputs and joint actions from parties, coordination, exchange of information and mutual assistance. The Convention specifically requires parties to pursue policies aimed at promoting these goals.

Main concepts

Systems and information certainly exist in all countries (at national and regional levels). This provision requires the wide use of the existing methods in place but at the same time requires the development of a comprehensive and coordinated approach to the Carpathian region.

Monitoring is periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements and/or pollutant levels in various media or in humans, plants, and animals.[293] Monitoring systems provide a framework for observing, measuring and reporting on the status and evolution of the environment during all stages of activities. It includes the development of sophisticated databases and a range of tools to assist managers in defining outcomes.[294]

In the Carpathian Mountains, monitoring activities can be conducted together through joint or complementary monitoring systems at a transnational level. At the very least, the results of monitoring should be compared and compiled.

A **standard** is a parameter established by consensus that provides, for common and repeated use, guidelines or characteristics for activities or their results.[295] **Standardisation** is the procedure of maintaining methods and equipment as constant as possible. Standardised research methods and related data-acquisition activities are useful in the context of cooperation and comparison of data.

Comparability refers to the possibility of examining the similarities and differences in information. A variety of approaches to assess and monitor the environment, risks or impacts make the comparison of data a difficult task. Thus, the comparative analysis of data would be facilitated by the definition of common or similar technical methods, models or standards.

Complementarity is understood as the interrelation of two methods building upon each other. As an example, qualitative and quantitative methods used in conjunction may provide complementary data sets which together give a more complete picture than can be obtained using either method singly.

An **environmental indicator** is a parameter or a value that describes the state of the environment and its impact on human beings, ecosystems and materials, the pressures on the environment, the driving forces and the responses steering that system.[296] Environmental indicators are essential tools for tracking environmental progress, supporting policy evaluation and informing the public. Since the early 1990s, such indicators have gained in importance in many countries and in international fora. As part of their commitment to transparency and to better public information, OECD countries increasingly use a reduced number of indicators, known as "key indicators," selected from larger sets to report on major environmental issues. The OECD pioneered the development of international environmental indicators and has long supported its member countries' efforts in this field. Its work has led to several sets of environmental indicators, each responding to a specific purpose.[297]

Social indicators are a set of indicators that measure progress towards the policy objectives designed for promoting employment, combating poverty, improving living and working conditions, combating exclusion, developing human resources, etc.[298]

Economic indicators are statistical data showing general trends in the economy. They include various indices, such as employment rates, industrial production, and trade deficits.

Early warning systems reduce the consequences of natural and human risks and hazards, by assessing the risks faced, establishing a monitoring system, disseminating quickly the information, and providing response capability to the threat.[299] An effective warning system can exist only through regional cooperation, exchange of observational data and establishment of an effective response plan that is activated when warnings are issued.[300]

Information systems include the technologies and procedures allowing the dissemination of data collected. A common system would increase the access of states, local authorities and the public to the information and their awareness of the situation in the Carpathians.[301]

Main relevant international agreements, legal instruments and initiatives

Numerous international instruments contain similar requirements to the ones found in the Carpathian Convention, since monitoring and assessment are integral parts of the implementation process of many MEAs. The requirement to carry out monitoring of the risks or effects of pollution and to assess the potential effects of activities are found, for example, in the **UN Convention on the Law of the Sea** (article 204), the **Convention on Biological Diversity** (article 7), the **Stockholm Convention on Persistent Organic Pollutants** (article 11),[302] the **Convention on the Protection of the Black Sea against Pollution** (article 15),[303] and the **Danube River Protection Convention** (article 9).[304]

Article 9 of the **Convention on Long-Range Transboundary Air Pollution** (1979) regulates in detail the implementation and development of the cooperative programme for the monitoring and evaluation of the long-range transmission of air pollutants in Europe, recognising, *inter alia*, the need to use comparable or standardised procedures for monitoring whenever possible and the desirability of establishing a framework for a cooperative environmental monitoring programme. Since the Carpathian Mountains are subject to the national jurisdictions of several states, the monitoring of air pollutants constitutes an integral part of the overall monitoring requirements of the Carpathian Convention.

The **Vienna Convention on the Protection of the Ozone Layer** (1985) requires states to cooperate, by means of systematic observation, research and information exchange, in order to better understand and assess the effects of human activities on the ozone layer and the effects on human health and the environment from the modification of the ozone layer. It also obliges states to promote or establish joint or complementary programmes for the systematic observation of the state of the ozone layer and other relevant parameters. The Ozone Protection Regime is considered to be one of the most successful, representing a positive example of addressing a global threat. All of the Carpathian countries are parties to the Vienna Convention and can use their valuable experience in relation to systematic observations, research and information exchange in the Carpathian region.

The **Convention on Transboundary Effects of Industrial Accidents** requires the establishment of a UNECE Industrial Accident Notification (IAN) system, which comprises the following three categories of reports: early warning, information, and assistance request.

The **Convention on the Protection and Use of Transboundary Watercourses and International Lakes** (1992) requires states to establish joint programmes for monitoring the conditions of transboundary waters (articles 4 and 11). In the context of the Carpathian Convention it is also important to mention Article 14 of the Water Convention, regulating the establishment and functioning of systems of warning and alarm.

The riparian parties are required without delay to inform each other about any critical situation that may have transboundary impact. The riparian parties are required to set up — where appropriate — and operate coordinated or joint communication and warning and alarm systems with the aim of obtaining and transmitting information. These systems are to operate on the basis of compatible data transmission and treatment procedures and facilities to be agreed upon by the riparian parties. The riparian parties are obliged to inform each other about competent authorities or points of contact designated for this purpose.

There are many bodies of water in the Carpathian Mountains, some of them of a transboundary nature. Thus, the implementation of the Watercourses Convention is beneficial for the sustainable development of the Carpathians.

The **Alpine Convention** does not contain a reference to EIA as that mechanism was in the early stages of development on the international level at the time of the drafting of the Alpine Convention. As seen in the introduction to this chapter, EIA started to appear as an obligation in international agreements in the early 1990s. Nevertheless, the Alpine Convention, in articles 3 and 4, stresses the importance of conducting scientific assessment and establishing monitoring systems and systems of data-acquisition. Parties are required to collaborate and to keep each other informed about all these activities.

The **World Charter for Nature**[305] requires the monitoring of the status of natural processes, ecosystems and species to enable early detection of degradation or threat, to ensure timely intervention and to facilitate the evaluation of conservation policies and

BOX 47

Joint monitoring programme on the Danube

On April 19, 1995, the governments of the Slovak Republic and the Republic of Hungary signed an agreement concerning certain temporary technical measures and discharges in the main channel and the Mosoni branch of the Danube, and prescribing the monitoring of the environmental impact of the measures carried out.

According to article 4 of the intergovernmental agreement, the parties are obliged to exchange and evaluate data obtained through the environmental monitoring carried out on both the Slovak and Hungarian sides of the Danube, which is necessary in order to assess the impacts of the increased flow rate in the Danube. The technical details of the environmental monitoring on both sides — the determination of the area affected, the sampling and measuring points, the frequency of measurements, the list of exchanged parameters, the frequency of data exchange, etc. — are prescribed in the Statute on the Activities of the Nominated Monitoring Agents envisaged in the agreement and relevant documents.

Observation results and measurement data in tabular and graphic form, together with their evaluation, form the basis of a *Joint Annual Report* prepared by the parties. The exchange of data and the evaluation of the monitoring carried out in the framework of joint monitoring are coordinated by the Plenipotentiary of the Government of the Slovak Republic for the Construction and Operation of the Gabcíkovo–Nagymaros Project and the Hungarian Ministry for Environmental Protection and Water Management.

The purpose of joint monitoring is to observe, record and jointly evaluate quantitative and qualitative changes to surface and groundwater bodies and the water-related natural environment in connection with the measures carried out and the rate of flow.

The purpose of mutual data exchange is to provide information on monitoring results, on the progress of parameters included in the data exchange, and on environmental changes in the affected areas of the respective parties. The basic condition of data exchange is the use of equal or compatible methods of measurement and analysis and the application of agreed interpretation methods.

The purpose of the *Joint Annual Report* is to submit the joint evaluation of monitoring results and joint recommendations for monitoring improvement and environmental protection activities to the respective governments.

Source: *Slovakian Joint Annual Report on Environment Monitoring in 2004,* www.gabcikovo.gov.sk/doc/jr2000en/preface.html

methods. The principles of conservation declared in the World Charter for Nature represent an important soft-law instrument that should be consulted by the Carpathian countries in their efforts towards the sustainable development of the mountains.

Responsibilities of local authorities

Local authorities have a general supervisory and consultative role in the process of the implementation of the given provision. Environmental assessment, monitoring and research are carried out by specialised institutions, while local authorities are responsible for ensuring that they carry out their activities in accordance with the Convention, and in accordance with the internal constitution and regulations.

Local authorities may also:

- create a forum for discussion among the different stakeholders that have an interest in the highlighted issues;
- develop common research methods and scientific assessment to ensure effective cooperation of experts;
- establish an information system accessible to all states, as well as to the public;
- consider other methods for the dissemination of environmental information collected in monitoring, assessment and research activities; and
- act in a cooperative way and devote significant efforts to early warning systems.

Local authorities should give emphasis to the implementation of Article 12, since the implementation of other articles depends heavily on it.

Linkages with other articles of the Convention

The provisions of Article 12 are of a general, horizontal nature. They may be applied to specific environmental sectors, but the purpose of using tools such as EIA and SEA is to touch upon all sectors and to reflect the cumulative environmental situation. Research activities, monitoring, the use of environmental indicators, etc. will be more effective if they combine data from different sectors.

The implementation of article 12 will facilitate the implementation of other articles of the Convention and will help to achieve more rapidly and more efficiently the goal of the sustainable development of the Carpathians.

Chapter L
Article 13

Article 13 – **Awareness raising, education and public participation**

1. The Parties shall pursue policies aiming at increasing environmental awareness and improving access of the public to information on the protection and sustainable development of the Carpathians, and promoting related education curricula and programmes.
2. The Parties shall pursue policies guaranteeing public participation in decision-making relating to the protection and sustainable development of the Carpathians, and the implementation of this Convention.

Information sharing and awareness raising, as well as environmental education, have been identified as key areas in working towards sustainable development, notably by Agenda 21. Indeed, education, access to information and awareness raising help to promote public participation in decision making, ultimately determining the direction of development and the state of the environment.

The Carpathian Convention recognises that environmental education, awareness and access to information are prerequisites of participation in decision making on environmental issues, and constitute important foundations for the implementation of the Convention. In order to achieve sustainable development in the Carpathian region, not only national governments should be aware of the steps to be taken, but also local authorities, the business community, NGOs, journalists, teachers, and even schoolchildren — in short, all of civil society.

Furthermore, it is only by possessing reliable and thorough knowledge of planned environmental activities, plans, programmes and strategies, and their impact on the environment, that individuals or groups of individuals can make a substantial and valuable input to the decision-making process.

1. The Parties shall pursue policies aiming at increasing environmental awareness and improving access of the public to information on the protection and sustainable development of the Carpathians, and promoting related education curricula and programmes.

This provision contains the obligation for states to raise environmental awareness, promote environmental education and guarantee access to information related to the protection and sustainable development of the Carpathians. These elements constitute environmental rights and allow active engagement of civil society through acknowledgement of policies and their implementation, which is a prerequisite for open and democratic governance.

Main concepts

In general, **environmental awareness** means knowledge and understanding of the impacts on and threats to the environment as a result of certain activities (e.g. the use of products harmful to the environment). Environmental awareness raising is topic-oriented and should have as its objective the modification of behaviour in relation to the environment. Indeed, the understanding of the potential impacts of activities on the environment in the present time and for future generations is essential for the sustainable development of the Carpathian region. Examples of successful awareness-raising campaigns in the Carpathian countries are numerous, (see boxes 48 and 49).

The United Nations Educational, Scientific and Cultural Organization (UNESCO), in particular, supports education for all and launches initiatives such as the United Nations Decade of Education for Sustainable Development (2005-2014).[306]

Education for sustainable development is closely linked to environmental awareness since it is a learning process that increases people's knowledge and awareness about the environment and associated challenges. Environmental education should be integrated into the

entire system of formal education at all levels to provide the necessary knowledge, understanding, values and skills needed by civil society to make informed decisions and take responsible action.[307]

Furthermore, schools have a key role to play in helping to instil a sense of environmental awareness and responsibility at an early age. For example, environmental awareness and education programmes are particularly developed in eco-schools, involving full pupil participation in decision making, planning and activities. Initiatives, such as the Green Pack, a toolkit for teachers on environmentally themed subjects,[308] are also worth mentioning.

Delivering basic environmental knowledge is an indispensable element of capacity building for public participation and access to environmental information.

Information related to the protection and sustainable development of the Carpathians covers all the spheres addressed by the Convention. It should also include information related to the implementation of the Convention at national, local and sub-regional levels, as well as the information related to parties' activities at the mentioned levels. Access to information can be active or passive. The general right of persons to have access to existing information upon request is known as "passive" access to information. The duty of the government to collect and disseminate information on its own initiative is known as "active" access to information.

Access to and dissemination of environmental information is essential for awareness raising and environmental education, as well as being the basis for public participation. Guidance on where to find information, what kind of information should be disseminated and by whom, etc., is given by the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters[309] and EU legislation.

The **public**, as referred to in the Convention, is not defined as a term. In general, each state defines the public in its civil legislation. At the international level, the term has been defined by a number of international agreements. For instance, the Aarhus Convention[310] defines the public as one or more natural or legal persons, and, in accordance with national legislation or practice, their associations, organisations or groups.[311]

The term **public concerned** refers to a subset of the public at large and means, according to the Aarhus Convention, the public affected or likely to be affected by, or having an interest in, environmental decision making, including NGOs.

Main relevant international agreements, legal instruments and initiatives

Environmental awareness raising and education have gradually been recognised by the international community as important factors in environmental protection.

The **Stockholm Declaration on Human Environment,** adopted in 1972 at the UN Conference on the Human Environment, recognised in Principle 19 that education in environmental matters is essential for responsible conduct by individuals, enterprises and communities in protecting and improving the environment in its full human dimension. The Stockholm Declaration, although a non-binding legal document, was the first global instrument to recognise, *inter alia*, the value and necessity of environmental education.

This declaration was followed by the launch of the **International Environmental Education Programme** (IEEP) jointly by UNESCO and UNEP, and in 1977 by the organisation of the **Intergovernmental Conference on Environmental Education** in Tbilisi.

Ten years after the Stockholm Conference, the UN General Assembly adopted resolution 37/7, known as the **World Charter for Nature**. It is well known that the charter was the first international nature-centrist instrument, emphasising that the protection of nature is an end in itself. In Chapter 13, the resolution states that the

BOX 48

Nature conservation exhibition in the Carpathians

The Czech Environmental Development Foundation has led the way in assisting and implementing several activities on heritage conservation and Natura 2000 awareness in the Beskydy Mountains in the Carpathians. The local NGO Salamandr coordinated the development of the exhibition People and Landscape, in Velke Karlovice. This exhibition has brought together dozens of people involved in local activities for the conservation of nature, small sacred buildings, old fruit tree varieties, sheep farming and the life of local civil associations (fire-fighters, football clubs, folk music and dance groups). The exhibition guide summarises the most important information and can also be used as a guidebook for tourists. The exhibition has attracted enormous interest among local inhabitants and represents a good platform for further empowering the people living in this harsh but very beautiful region of the Carpathians.

Source: www.nadacepartnerstvi.cz/english/granty/granty_carpantian_ecoregion_initiative.html

BOX 49

CITES-related campaign in Hungary

In 2003, the Hungarian Ministry of the Environment and Water initiated a campaign relating to the Convention on International Trade in Endangered Species (CITES), working jointly with WWF Hungary and the Rex Animal Welfare Foundation. It was a major initiative aimed at reducing the environmental risks arising from the importing of endangered species. It was supported by a strategic mass media campaign and high-profile public relations activities.

The campaign had four objectives:

- to raise awareness of the trafficking of endangered species among Hungarian tourists travelling abroad;
- to provide them with specific information on protected species;
- to help people to identify protected species; and
- to reduce illegal trade in endangered species.

The number of Hungarian tourists travelling abroad has increased over the past decades. Most of them are not aware of the fact that importing protected species and their derivates is illegal and detrimental to the environment. The launch of the campaign involved an extensive range of communications tools, including an exhibition at the Hungarian national airport, leaflets, and a mass media campaign (advertisements in the press, radio, TV, internet, etc.). There was considerable media interest, as well as positive feedback from the target audience. The campaign's website witnessed a net increase of visitors. From December 2003 to February 2004, the campaign continued in the form of a photo competition, ads on Budapest trams and TV spots.

Source: www.uneptie.org/PC/sustain/reports/advertising/Communication_Guide/webEN2.pdf

BOX 50

Information and observation systems in the Alps

The Permanent Secretariat of the Alpine Convention developed an effective information system called the System for Observation and Information on the Alps (SOIA). The SOIA Working Group of the Alpine Convention provides information on and interpretation of the main developments in the Alps as a basis for political decision making and to inform the general public.

Furthermore, a Regional Observatory on Mountains has been established in Piemonte that is responsible for carrying out analysis and studies on the structural and substantial problems of the alpine territory regarding demography, culture, commerce, crafts, agriculture, forestry and transport. Moreover, the observatory provides the public with periodical leaflets and publications, organises conferences and manages an electronic database.

BOX 51

Some key questions that should be answered according to the Aarhus Convention as concerns access to information

What kind of information should be disseminated? by whom? in what ways?

How can the public find out what information exists and which authorities hold this information?

To whom should information requests be submitted?

What are the terms of receiving information?

How is confidentiality governed and handled?

What can be done when information is not provided or refused?

What are the appeal rights, access to court procedure, etc.?

knowledge of nature shall be broadly disseminated by all possible means, particularly by ecological education as an integral part of general education.

The second global environmental summit held in Rio de Janeiro in 1992 was a starting point for the development of procedural environmental human rights, that is, access to information, public participation in decision making and access to justice in environmental matters. In Principle 10, the **Rio Declaration on Environment and Development** adopted at the summit recognised that each individual shall have appropriate access to the environmental information held by public authorities, and that states shall facilitate and encourage public awareness and participation by making information widely available. Awareness raising was also high on the agenda and access to information is regarded as its precondition. Compliance with the principles set out in the declaration contributes to the implementation of the Carpathian Convention.

Principle 10 of the Rio Declaration has been further developed in many international instruments.

The most significant example can be found in the **Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters**, known as the Aarhus Convention, which was signed in 1998. The Aarhus Convention guarantees the right of the public to active and passive access to information, and regulates in detail the procedures for applying for information, conditions for refusing a request, and the measures for ensuring the collection and dissemination of information by public authorities. In addition, the general provisions of the convention require the promotion of environmental education and awareness among the public. With the exception of Serbia, all of the Carpathian countries are parties.

Sector-specific environmental conventions usually recognise that environmental awareness raising, education and access to information are important for their implementation.

The **UN Framework Convention on Climate Change** of 1992 recognises that in carrying out their commitments the states must promote and facilitate the development and implementation of educational and public awareness programmes on climate change and its effects and guarantee public access to information on climate change and its effects.

Environmental education, public awareness and access to information related to climate change may be part of general educational and awareness-raising actions in the Carpathians.

The **Convention on Biological Diversity** requires states to promote an understanding of the importance of, and the measures required for, the conservation of biological diversity, including through media and educational programmes. Education and awareness raising on nature conservation can be a part of general educational and awareness-raising actions in the Carpathians.

Article 19 of the **Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa**, adopted in 1994, is of particular value since it introduces specific educational and awareness-raising measures which can also be adopted for other elements of the environment. Parties are required to organise awareness campaigns for the general public, encourage the establishment of associations that contribute to public awareness, and develop interdisciplinary participatory programmes.

The 1992 **Convention on the Transboundary Effects of Industrial Accidents** contains the requirement to share information on industrial accidents caused by hazardous activities that occur or are likely to occur in order to respond to the consequences of the accident in due time.

The **Convention on the Protection and Use of Transboundary Watercourses and International Lakes** of 1992 obliges parties to make information available to the public on the condition of transboundary waters, the measures taken, or planned, to prevent, control and reduce transboundary impacts, and the effectiveness of those measures.

At the EU level, **Directive 2003/4/EC on Public Access to Environmental Information (Repealing Council Directive 90/313/EEC)** was adopted in 2003 to align EU rules with the environmental information requirements of the Aarhus Convention. The directive established the right of every natural or legal person to access to environmental information held or produced by public authorities. Today, five of the Carpathian countries are members of the EU and should have transposed the EU acquis communautaire, including this directive. The implementation of the directive in these states will facilitate the implementation of the Carpathian Convention.

The **Alpine Convention** was adopted in 1991, when awareness raising, education and public participation were not common subjects of international agreements. Subsequently, such requirements have become binding on the Alpine Convention parties through other instruments. However, articles 3 and 4 deal with research, legal, scientific, economic and technical cooperation among the parties. By encouraging research and cooperation the Alpine Convention stresses the importance of sharing information in order to better solve problems.

Responsibilities of local authorities

Local authorities are encouraged to consult other international, particularly soft-law, documents for guid-

ance in raising environmental awareness, ensuring proper environmental education and access to environmental information. They should also strive to:

- lead and promote environmental awareness-raising campaigns among the general public and authorities working in the fields covered by the Carpathian Convention;
- promote and ensure public access to relevant information;
- ensure the update of environmental information and its regular dissemination;
- create electronic databases and other tools to collect and disseminate the information (environmental publications, reports, etc.), including mechanisms for the collection of information on current and proposed activities that have a potentially significant effect on the environment;
- use mass media to spread awareness widely, along with understanding of sustainable development issues; and
- assess educational needs, elaborate appropriate school curricula and expand educational opportunities.

In emergency situations local authorities should immediately disseminate information on risks to human health, life and property, as well as on the possible ways to minimise these effects.

Environmental awareness, education and access to environmental information requirements can be implemented through **transboundary cooperation**. Public authorities may choose to exchange educational and public awareness-raising material, to undertake joint awareness-raising campaigns for border settlements, to ensure access to information to the public of bordering countries in relation to the protection and sustainable development of the region, to have joint educational events for young people, to hold local educational events and joint training for youths, as well as workshops and seminars for authorities in the fields covered by the Carpathian Convention.

2. The Parties shall pursue policies guaranteeing public participation in decision-making relating to the protection and sustainable development of the Carpathians, and the implementation of this Convention.

Environmental issues concern both states and individuals. Public opinion should therefore be taken into consideration in decision-making processes since the decisions may influence the state of their environment. The right for the public and associations to participate in decision making and to voice concerns is a democratic process that guarantees the transparency of the work of public agencies. Moreover, public participation leads to better quality governmental decisions and brings greater public support for governmental decisions.

Public participation is recognised by the Carpathian Convention as an overarching principle which should be applied throughout the implementation of the Convention. One of the forms of implementation of such participation is decision making, which is referred to implicitly throughout the Convention in the requirements made of the parties.

Main concepts

As a phenomenon, **public participation in decision making** involves the activity of members of the public in partnership with public authorities to reach an optimal result in decision making. There is no set formula for public participation, but at a minimum it requires effective notice, adequate information, proper procedures, and appropriate consideration of the outcome of public participation. According to the Aarhus Convention, the public concerned should be involved in decision making:

- relating to specific activities;
- concerning plans, programmes and policies; and
- during the preparation of executive regulations and/or generally applicable legally binding normative instruments.

In the case of public participation in decision making on specific activities and when national laws related to the environment are infringed, access to justice rights should be exercised as foreseen in article 9 of the Aarhus Convention.

Main relevant international agreements, legal instruments and initiatives

Adopted by the United Nations General Assembly, resolution 37/7 of 1982, the **World Charter for Nature** is a soft-law document encouraging the world community, *inter alia*, to involve the public in environmental decision making. It states that the public should have the opportunity to participate in the formulation of decisions that directly concern their environment. This document has served as a starting point for many MEAs and is referred to in their preambles.

Principle 10 of the **Rio Declaration on Environment and Development** recognises the importance of public participation in environmental decision making:

"environmental issues are best handled with the participation of all concerned citizens, at the relevant level."

Constituting the most comprehensive regulation of public participation in specific activities related to the environment, the **Aarhus Convention** can be widely applied in the sectors regulated by the Convention. Participation in the development of plans, programmes and policies, as well as executive regulations and generally applicable legally binding normative instruments, is also important. The Aarhus Convention obliges parties to both Aarhus and the Carpathian Convention to promote "Aarhus Principles" in the work of the latter. The Almaty Guidelines on Promoting the Application of the Principles of the Aarhus Convention in International Forums were adopted in June 2005 with the primary purpose of providing general guidance to parties in applying the principles in the work of international organisations, which includes convention bodies.[312]

The **Convention on Environmental Impact Assessment in a Transboundary Context**, signed in Espoo in 1991, shows the link between public participation and EIA. Article 2 states that members of the public potentially affected by proposed activities, irrespective of their state of residence, should have an equal opportunity to participate in environmental impact assessment procedures related to the activities. Furthermore, relevant EIA documentation should be distributed to the public within a reasonable time before the final decision is taken, and comments on it should be considered. Since there are many natural subjects and areas located across/at state borders, the involvement of the public, including people from neighbouring countries, is particularly important in the Carpathian Mountains.

More specific obligations can be found in the **Protocol on Strategic Environmental Assessment to the Espoo Convention**, signed in 2003, which stresses in its article 8 that parties shall endeavour to provide early, timely and effective opportunities for public participation in the strategic environmental assessment of plans and programmes, ensuring that the public can express its opinion on the draft plan or programme and the environmental report within a reasonable time frame.

Besides MEAs, the **EC Directive on the Assessment of the Effects of Certain Public and Private Projects on the Environment** of 1985, amended by directives 97/11/EEC and 2003/35/EEC, regulates public participation in decisions on specific activities affecting the environment. This directive was among the first of its kind, and the experience of the directive's implementation was analysed and used during the negotiation, signing, ratification and implementation of relevant MEAs.

Responsibilities of local authorities

Involving the public in the decision-making processes of local authorities is a challenging and difficult task. At the same time, it can be a rewarding experience which enhances both the legitimacy of decision making and the value of the decision taken. Local authorities primarily have a responsibility to facilitate public participa-

BOX 52

Demonstration EIA project in Ukraine

To demonstrate the benefits of EIA procedures on business development, the community and the environment, a demonstration EIA project was implemented in Ukraine between 1997 and 2000. The project was a cooperative effort by the United States Environmental Protection Agency (US EPA), the United States Agency for International Development (USAID), and the United Nations Development Programme (UNDP), supported by numerous agencies and organisations within Ukraine. The strategic partner was the Ministry of Environment and Natural Resources of Ukraine, which is responsible for reviewing environmental assessment statements under Ukrainian law. Funding for the project was provided by the US government and UNDP.

The investment project under consideration was the expansion of production at the Pasichna oil field in Western Ukraine. The investor agreed to conduct an open and transparent EIA process with full-scale public participation, and this decision was approved by the Oblast Administration. The first important step was the intensive five-day training course on Principles of EIA. Conducted by the EPA team, the course brought together 20 representatives from different sectors, including oil company staff, governmental and local officials, scientists, media, and NGOs.

The dialogue was maintained with the local communities through meetings, information repositories, and the establishment of a Public Advisory Council. Possible alternatives to the Pasichna oil field development were discussed, comments were received and recommendations on issues that needed detailed investigation were formulated.

The Final EIA was completed and presented at a public hearing in Pasichna at the end of 1999. The EIA efforts were highly valued by the public, national, oblast and local level authorities.

Source: Tykhyy, V., 2003, *Successful Dialogue in Preparation of the Investment Project in Western Ukraine*, 5th International Conference on Ethics and Environmental Policies, Kiev, April 2-6, 2003.

tion through early dialogue and to ensure that comments from the public are taken into account. Consequently, the rules established by the Aarhus Convention and the SEA Protocol, and, in the case of activities with potential transboundary effects, the Espoo Convention should be followed. For instance, articles 6 to 8 of the Aarhus Convention establish certain public participation requirements for decision making, including:

- timely and effective notification of the public concerned;
- reasonable timeframes for participation, including provision for participation at an early stage;
- a right for the public concerned to inspect information which is relevant to the decision making free of charge;
- an obligation on the decision-making body to take due account of the outcome of the public participation; and
- prompt public notification of the decision, with the text of the decision and the reasons and considerations on which it is based being made publicly accessible.

The case study in Box 52 illustrates the responsibility of local authorities to ensure that EIA procedures allow broad public participation. Cooperation between states and the exchange of experience and information relating to good practices of public involvement in decision-making processes can be useful in the implementation of the Convention.

Linkages with other articles of the Convention

The role of public participation in the implementation of the Convention is discussed under article 2, and concerns all the matters covered by the Carpathian Convention. It is also a key issue of environmental assessment processes and consultations considered in article 12 of the Convention. Finally, articles 14 and 16 foresee the establishment of subsidiary bodies and the participation of national, intergovernmental or non-governmental organisations in the Conference of the Parties to the Carpathian Convention.

Part II
Institutional Aspects

Chapter A
Article 14

Article 14 – **Conference of the Parties**

1. A Conference of the Parties (hereinafter referred to as the "Conference") is hereby established.

2. The Conference shall discuss common concerns of the Parties and make the decisions necessary to promote the effective implementation of the Convention. In particular, it shall:
(a) regularly review and support the implementation of the Convention and its Protocols,
(b) adopt amendments to the Convention pursuant to Article 19,
(c) adopt Protocols, including amendments thereto, pursuant to Articles 18,
(d) nominate its President and establish an intersessional executive body, as appropriate and in accordance with its Rules of Procedure,
(e) establish such subsidiary bodies, including thematic working groups, as are deemed necessary for the implementation of the Convention, regularly review reports submitted by its subsidiary bodies and provide guidance to them,
(f) approve a work program, financial rules and budget for its activities, including those of its subsidiary bodies and the Secretariat, and undertake necessary arrangements for their financing pursuant to Article 17,
(g) adopt its Rules of Procedure,
(h) adopt or recommend measures to achieve the objectives laid down in Articles 2 to 13,
(i) as appropriate, seek the cooperation of competent bodies or agencies, whether national or international, governmental or non-governmental and promote and strengthen the relationship with other relevant conventions while avoiding duplication of efforts, and
(j) exercise other functions as may be necessary for the achievement of the objectives of the Convention.

3. The first session of the Conference shall be convened not later than one year after the date of entry into force of the Convention. Unless otherwise decided by the Conference, ordinary sessions shall be held every three years.

4. Extraordinary sessions of the Conference shall be held at such other times as may be decided either by the Conference at ordinary session or at the written request of any Party, provided that, within three months of the request being communicated to all the other Parties by the Secretariat, it is supported by at least one third of the Parties.

5. The Parties may decide to admit as observers at the ordinary and extraordinary sessions of the Conference:
(a) any other State,
(b) any national, intergovernmental or non-governmental organization the activities of which are related to the Convention.
The conditions for the admission and participation of observers shall be established in the Rules of Procedure. Such observers may present any information or report relevant to the objectives of the Convention.

6. The Conference shall reach its decisions by consensus.

Every international treaty system needs institutional arrangements to be effective, to enable the parties to have a forum to exchange their views, for coordination mechanisms for their efforts towards the realisation of the aims of the treaty, to adopt amendments, protocols and decisions for implementation, and to enforce the obligations contained in the treaty.

Usually an international treaty builds up a basic structure made of a plenary assembly where acts are adopted by the parties, each with one vote, supported by subsidiary bodies such as working groups and committees, and a permanent secretariat with responsibilities related to coordination, representation and implementation. The main decision-making body is the conference of the parties (COP). In this connection, certain aspects become important, such as the way of convening the plenary assembly, voting procedures in adopting amendments, protocols and measures (decisions and recommendations), and powers to impose binding decisions on the parties. A secretariat also plays an important role through the possibility to undertake executive actions to assist the parties in meeting their goals.

Treaty regimes may also establish effective compliance and dispute settlement mechanisms, but this feature is often missing in international treaties dealing with environmental matters, in particular framework conventions such as the Carpathian Convention. The bodies established by the Framework Convention on the Protection and Sustainable Development of the Carpathians are the Conference of the Parties (CoP), the Secretariat and the subsidiary bodies.

The institutional structure of the Convention is analysed below, based on the provisions of the Convention itself and the rules of procedure (ROP) for the Conference of the Parties,[313] and international law.

Composition of the CoP (Rule 14-15)

The Conference of the Parties (CoP) is the plenary assembly where all the states parties[314] to the Convention have their own representatives. According to the general practice developed for plenary organs in international law, in the Conference of the Parties each member state can have one representative, who can be assisted by one or more advisers. This is confirmed also in the ROP, by Rule 14, where it is stated that each party delegation shall consist "of a head of delegation and such other accredited representatives, alternate representatives and advisers as it may require." Moreover, "a representative may be designated as an alternate head of delegation" and "an alternate representative or an adviser may act as a representative upon designation by the head of delegation."

The participants in the CoP are therefore made up of governmental representatives of all the state parties, sometimes accompanied by a delegation of experts. Usually the governmental representatives participating in the CoP come from the ministries related to the topic of the Convention or from the Ministry of Foreign Affairs. For example, in the CoP of the Carpathians Convention it is likely that at least some governmental representatives participating will come from the ministries of environment.

Usually a compulsory condition for the delegation of each state to participate in the CoP is the presentation of credentials by the representatives that intend to take part in the CoP on behalf of their state. Credentials are documents by which a state, through the organ that is authorised by the internal law to sign them, usually the head of state, declares that the person who is about to attend an intergovernmental meeting has the capacity to do so on behalf of the state itself. According to Rule 15 of the ROP the credentials of representatives, the names of the alternate representatives and advisers, and any later changes in them, shall be submitted to the executive secretary,[315] or to the representative of the executive secretary of the CoP not later than 24 hours after the opening of the meeting.

Meetings of the Conference of the Parties (Art. 14.3)

Ordinary and extraordinary sessions (Rules 3-5)

Pursuant to article 14.3, the first session of the Conference of the Parties took place in December 2006 in Kiev, less than one year after the date of the entry into force of the Convention. The ordinary meetings are expected to be held every three years (art. 14.3). However, rule 4.1 of the ROP states that the CoP can review the periodicity of its ordinary sessions[316] at any time "in the light of the progress achieved in the implementation of the Convention." During each ordinary session, the Conference "shall decide on the place of the following ordinary meeting, unless other appropriate arrangement are made by the Secretariat in consultation with Bureau"[317] and "shall set the indicative date for the opening and the duration of the next ordinary session."[318] It is common practice that a different member state hosts each Conference of the Parties, according to an equal geographical representation of all the members.

On the other hand, any necessary extraordinary meeting can be organised at any other time as decided at an ordinary session of the CoP, or at the written request of any party, supported by at least one-third of the parties within a three-month period after the Secretariat has circulated the request among all the members.[319] Moreover, in the case of an "extraordinary ses-

sion convened at the written request of a Party, it shall be convened not later than ninety days after the date at which the request is supported by at least one third of the Parties."[320] Note that this provision is inconsistent with the corresponding provision found in the ROP (Rule 4.3), which refers to the support of two-thirds of the parties. This might be due to a typographical error, and in any case the Convention text has precedence over the ROP.

The Secretariat has the duty to "notify all Parties of the dates and the venue of the ordinary meeting of the Conference of the Parties at least three months before the meeting is due to commence."[321] The rules of procedure, as stated in Rule 1, "apply to any meeting of the Conference of the Parties," both an ordinary session and an extraordinary one.

Bureau of the Session: Officers (Rules 16-20)

The Convention[322] provides that the Conference of the Parties, at the commencement of each ordinary session shall nominate a president. The ROP[323] add that a vice-president (to act as president in cases of temporary absence of the president) and a rapporteur are also to be elected, as the bureau of the session. These three officers shall remain in office until their successors are elected at the next ordinary meeting.[324] Therefore, at the opening of each session, the president of the previous ordinary session (or the vice-president) shall preside until the CoP has elected the new president for the session.[325] Moreover, in the intervening period they should serve in the same capacity at any extraordinary meeting.[326]

The presidency, as stated in Rule 16.2, shall be held in turn by each party[327] in alphabetical order of the name of the parties in the English Language, unless otherwise decided by the CoP. It is common practice that the person in charge of the presidency does not simultaneously exercise the rights of a representative of a party, and for this reason that party shall designate another representative who shall be entitled to represent the party in the meeting.[328] Moreover: if an officer of the Bureau resigns or is otherwise unable to complete the assigned term of office or to perform the functions of the office, a representative of the same party shall be named by the party concerned to replace the said officer for the remainder of that officer's mandate.[329]

The powers of the President can be split in the following categories:

- **presiding powers**[330] during the sessions by deciding on the list of the speakers, according the right to speak, announcing decisions, adjourning the closure of the debate and the suspension or the adjournment of a session;
- **controlling powers**[331] regarding the observance of the rules of procedure during the proceedings and maintaining order; and
- **coordination powers** between the operation of the Secretariat and the CoP — the president in fact "shall prepare the provisional agenda"[332] with the Secretariat.

Regarding the exercise of his or her functions, the Rules of Procedure prescribe that the president "remains under the authority of the Conference of the Parties."[333] This formulation signifies that the president serves the Conference of Parties and his or her powers derive from the consent of the states represented in the CoP. Nevertheless, taking into account the rotation system, this statement is not without controversy, and will need further clarification by the CoP in the development of its practice. Formulations in other ROPs often refer to the fact that the president is governed by the rules of procedure.

Agenda and documents for the meeting (Rules 6-13)

The provisional agenda of each meeting is prepared by the Secretariat in agreement with the president of the CoP. The provisional agenda of a CoP meeting includes:

- items arising from the articles of the Convention (in particular discussions on amendments to the Convention, draft protocols, and measures to achieve the objectives of the Convention);
- items, the inclusion of which have been decided at a previous meeting (unless otherwise decided by the CoP);
- items of the agenda of the previous session that have not been discussed there;
- any item proposed by a party and received by the Secretariat before the provisional agenda is produced; and
- the proposed budget and questions concerning financial arrangements.[334]

The provisional agenda, together with the supporting documents, shall be distributed at least six weeks before the opening of the meeting,[335] in English.[336] Therefore, once a member state is aware of the provisional agenda of the meeting, reflections and analysis need to be made in order to reach a proper position. Consultation among the members and with involved NGOs and other associations are also welcome for better information, and for an easier way of reaching decisions in the CoP.

Moreover, it is also possible to include each item which is proposed by a party or an observer and has been received by the Secretariat after the provisional agenda has been produced, but before the opening of the meeting, in a supplementary provisional agenda.[337]

The CoP, in the beginning of its meeting, examines the provisional agenda together with any supplementary items and, in the process of adopting the definitive agenda, it may delete, defer or amend items; it may also add items, but only ones that are considered to be urgent and important.[338] No standards have been established for the determination of the urgency or importance of an item; the CoP will provide such indications with its practice.

Before the CoP discusses an item on the agenda, the Secretariat reports on the administrative and financial implications of the items submitted to the meeting. The CoP cannot proceed on the matter before receiving from the Secretariat such information, unless otherwise decided by the CoP.[339]

Extraordinary sessions are usually more specific and their provisional agenda "consists only of those items proposed for considerations in the request for the holding of the extraordinary meeting."[340]

Conduct of Business

According to Rule 24 of the ROP the "sessions of the Conference of the Parties shall be held in public, unless the Conference of the Parties decides otherwise." Therefore there is the possibility of closed sessions, but in practice today such occasions are virtually unknown under MEAs. For the debate to be opened, a majority of the parties needs to be present to establish a quorum, according to Rule 25, and proposals and amendments to proposals shall normally be introduced in writing by the parties and handed to the Secretariat, which shall circulate copies to the delegations. Nevertheless the president may, in exceptional circumstances and in cases of urgency, permit the discussion and consideration of proposals, amendments to proposals or of procedural motions even though these have not been circulated.[341]

During the discussion, no one can speak "without having previously obtained the permission of the President,"[342] and the president may interrupt the speaker, if the intervention is not relevant to the subject under discussion. Precedence may be accorded to the chairperson or rapporteur of a subsidiary body for the purpose of explaining the conclusions arrived at by that subsidiary body.[343] Moreover, the Conference may limit the time allowed to each speaker and the number of times each representative may speak on a question, provided that certain safeguards are carried out.[344]

Rulings on points of order and questions on the competence of the CoP to discuss a certain matter are also governed by the Rules of Procedure, rules 28 and 29. Moreover, according to Rule 31.1, some motions shall have precedence over all other proposals or motions, for example the motions to suspend a session, to adjourn a session, to adjourn a debate on the question under discussion and the motion for the closure of the debate on the question under discussion. Proposals or motions may be withdrawn at any time before a decision on it is made, provided that the motion has not been amended,[345] but in any case a proposal or motion withdrawn may be reintroduced by any other party.

Finally, when a proposal "has been adopted or rejected, it may not be reconsidered at the same meeting, unless the Conference of the Parties by consensus of the Parties present, decides in favour of reconsideration."[346] In this case only the mover of the motion and a supporter can speak and then the motion should be put immediately to the decision making.

Records of the meetings

According to Rule 37, "audio records of the sessions of the Conference of the Parties shall be kept by the Secretariat in accordance with the practice of the United Nations."

Language of the meeting

According to Rule 36 the working language of the CoP and of the official documents shall be English. However, "a representative of a Party may speak in a language other than the working language, if the Party provides for interpretation into the working language."

Powers of the Conference of the Parties (Art. 14. 2)

The Conference of the Parties, as the plenary assembly of the Convention, where all the parties are represented, is the key decision-making body of the Convention. The effective functioning of the Convention regime depends on the powers of the CoP and on the effectiveness of its decisions. In fact, article 14.2 prescribes that "The Conference shall discuss common concerns of the Parties and make the decisions necessary to promote the effective implementation of the Convention."

The Assembly possesses several powers, divided into the following categories:

- **Substantive control and development of the Convention** — the CoP shall adopt protocols, amendments to the Convention, and amendments to the rules of procedure[347] and shall regularly review and support the implementation of the Convention and its protocols. Moreover, the CoP shall review reports submitted by its subsidiary bodies.
- **Management** of the structure of the CoP through the adoption of Rules of Procedure, nomination of the president, establishment of subsidiary bodies, working groups, etc.
- **Financial role** — the CoP adopts the financial rules and budget for its activities, including those of the subsidiary bodies and the Secretariat.
- **Recommendatory role** — the CoP adopts recommendations for measures to achieve the objects laid down in the Convention.
- **Implicit functions** — the CoP can "exercise other functions as may be necessary for the achievement of the objectives of the Convention." The scope of this "implicit power" is rather undefined in international law.

Voting procedure (Art. 14.6)

Article 14.6 prescribes that the Conference shall reach its decisions by consensus, which is repeated in the ROP.[348] Consensus is a decision-making procedure, often used in international bodies and organisations, where no formal vote takes place, but which reaches its conclusion when the presiding officer of a meeting declares the agreement of the members without objections. It requires a process of dialogue to reach a situation where all objections have been overcome. Commonly, agreements call for parties to make every effort to reach agreement on all matters by consensus. Where no agreement can be reached through consensus in certain cases, decision making may take place by voting.

No precise voting procedure has been prescribed in the Convention nor in the ROP. Under international law, where voting takes place normally each party has one vote.

Observers (Art. 14.5)

According to international practice, certain organisations or even non-party states may be accorded the status of observers. Typically, this status is conveyed on international organisations and non-governmental organisations and other associations that are qualified with respect to certain matters, or have an interest in expressing their opinions and reporting their activities in order to influence the debate and the final deliberations of a body. Their scope of action should relate to the aims of the institutional framework where they want to be involved. The deliberation process can benefit from the contributions of these organisations, from gathering information through studies and research, expressing points of view, raising attention to priorities, conveying information to stakeholder groups, increasing understanding, etc. Participation of observers also increases transparency. However, their actual power is limited by the fact that observers typically do not have the right to take part in decision making, and sometimes do not even have the right to address the meeting. The Carpathian Convention follows the recent trend of increased participation of observers in the deliberation of the CoP and other bodies.

Admission of observers

Article 14.5 states that: "the Parties may decide to admit as observers at the ordinary and extraordinary sessions of the Conference: any other State, any national, intergovernmental or non-governmental organization the activities of which are related to the Convention." According to the ROP, observers may participate in the sessions of the subsidiary bodies too.

The Rules of Procedures establish the conditions for the admission and participation of observers to the CoP. According to Rule 35, "the Secretariat should compile and regularly update the list of organizations, agencies and entities" that can participate in the CoP meetings, and it shall communicate such a list "to the Bureau of the CoP prior to each session of the CoP." Moreover, "the Secretariat shall notify to the observers of the dates and the venue of a session at least one month before the session is due to commence." The only condition for an organisation to be admitted as an observer is the requirement that it deal with matters related to the Convention.[349] There are no conditions for admittance of states as observers.

An important role has been given to the Secretariat in the ROP regarding public participation in decision making: the Secretariat "shall endeavour to provide opportunities for effective public participation in decision making under this Convention." Even though the verb "endeavour" seems to limit the extent of the efforts imposed on the Secretariat for this function, it is, however, appreciable that such a possibility has been prescribed.

Rights of observers

According to the Convention[350] and the ROP,[351] observers "may present any information or report relevant to the objectives of the Convention." Moreover, according to Rule 35.4, "the observers may participate, in the deliberations of the Conference of the Parties and its subsidiary bodies, on questions within their competencies or scope of activities." This erases any doubt as to whether observers have the full right to speak and to participate actively in the sessions of the CoP and meetings of subsidiary bodies.

Chapter B
Article 15

Article 15 – **Secretariat**

1. A Secretariat is hereby established.
2. The functions of the Secretariat shall be:
(a) to make arrangements for sessions of the Conference and to provide them with services as required,
(b) to compile and transmit reports submitted to it,
(c) to coordinate its activities with the secretariats of other relevant international bodies and conventions,
(d) to prepare reports on the exercising of its functions under this Convention and its Protocols, including financial reports, and present them to the Conference,
(e) to facilitate research, communication and information exchange on matters relating to this Convention, and
(f) to perform other secretariat functions as may be determined by the Conference.

The secretariat of an international convention provides for technical and administrative support to the operation of the convention bodies, and represents the organisation in external relations.

Establishing a permanent secretariat for the Carpathian Convention

According to article 15 of the Carpathian Convention, the parties have an obligation to establish a permanent secretariat and to decide about the necessary arrangements, including its funding, location and staffing. Pending the final decision on this matter, the United Nations Environmental Programme (UNEP) – Regional Office for Europe has been designated to function as Interim Secretariat for the Carpathian Convention. Parties make financial contributions to assist in meeting the core costs of the Interim Secretariat's budget. So far it has received structural support and voluntary contributions from the Government of Austria, the Czech Republic, Hungary, Italy, Poland, Switzerland, Slovakia and Ukraine. It is also supported by the European Commission through the CADSES programme.

Functions of the Secretariat

Article 15 of the Convention sets forth the functions of the Secretariat, which can be divided as follows:

1. **Managerial role** — the Secretariat shall arrange the sessions of the CoP and provide them with the necessary support services. In particular, as stated in Rule 23 of the ROP, the Secretariat shall:

- prepare, publish and circulate documents of the meetings to the Parties; it shall furthermore post these documents on the website;
- make and arrange for the keeping of sound recordings of the meetings;
- arrange for the custody and preservation of the documents of the meetings;
- generally perform all other work that the Conference of the Parties may require; and
- make available documents accessible to the public for its active participation.

2. **Active and passive reporting role** — the Secretariat shall prepare reports for the CoP on the administrative and financial implications of all substantive agenda items,[352] and shall analyse and compile reports submitted to it.
3. **coordination** — the Secretariat shall coordinate its activities with the Secretariat of other international bodies, and facilitate exchange of information and communication on the matters related to the Convention.

4. **Additional functions** — the CoP has the capacity to determine for the Secretariat new functions to perform.

Location and funding

First of all the physical location of the permanent secretariat needs to be decided, and typically it is hosted by a member state. The main factor influencing the choice of location is to ensure the most favourable conditions for the effective functioning of the Secretariat. Once the physical location has been decided, the next step is the drafting of the host government agreement, and then the negotiation and conclusion of it on behalf of the contracting parties and the hosting government.

One of the issues that will be on the agenda once the permanent secretariat is established is the linkage with other international bodies or agencies. The international organisations that provided support to the early stages of an initiative generally remain involved in its further development. Various formulae may be employed to fund the activities of the Secretariat. These may include mandatory contributions, voluntary contributions, or linkages with external projects, programmes or organisations. Mandatory contributions may be determined on the basis of equality or of application of different criteria, including economic criteria, geographical criteria or a combination of the two.

Chapter C
Article 16

Article 16 – **Subsidiary Bodies**

The subsidiary bodies, including thematic working groups established in accordance with Article 14 paragraph 2 (e), shall provide the Conference, as necessary, with technical assistance, information and advice on specific issues related to the protection and sustainable development of the Carpathians.

Subsidiary bodies and thematic working groups as defined under the Convention are made up of experts related to the subject matters the body has been established to address. Usually they are established in international treaties to assist the main organs in their duties, to discuss in a more intimate forum particular problems that need to be analysed by experts before the main organs can decide on them.

Apart from that which is expressly prescribed by the Convention and the Rules of Procedure relating to the subsidiary bodies and the working groups, all the rules for the functioning of the CoP apply to the proceedings of the subsidiary bodies, unless otherwise decided by the Conference. The only rule that does not apply is the one that prescribes that the president cannot represent the party in the session. The chairperson of a subsidiary body may simultaneously represent a party in the session.[353]

Composition of subsidiary bodies

Usually in the practice of international organisations, subsidiary bodies and thematic working groups consist of representatives of only some of the parties, due to the economy and practicality of discussing the matters within relatively small, specialised groups. Thanks to the small number of contracting parties of the Carpathian Convention, its subsidiary bodies could include a representative from each country. Typically these are technical experts whose knowledge is related to the topic the body has been established for.

The chairperson for each subsidiary body shall be elected by the Conference of the Parties, unless otherwise decide by the CoP, as stated in Rule 21.3 of the ROP. Each subsidiary shall elect its own officers. Moreover, subsidiary bodies can be established to be permanent, while working groups can be intended as short-term bodies to help the CoP in topics that are of interest for a particular period of time.

Meetings of subsidiary bodies

According to Rule 21.2 of the ROP, subsidiary bodies shall meet in conjunction with the meetings of the CoP, "where appropriate," that is to say, where the topic of the subsidiary body is of interest for the agenda of that Conference session or for practical or cost reasons. Moreover, the CoP may decide that any subsidiary body may meet in the period between ordinary sessions. "Sessions of the subsidiary bodies shall be held in public unless the subsidiary body concerned decides otherwise."[354] Closed sessions should be limited in order to guarantee transparency.

Functions of the subsidiary bodies

Subsidiary bodies and thematic working groups, according to the ROP,[355] "shall provide the Conference, as necessary, with technical assistance, information and advice on specific issues related to the protection and sustainable development of the Carpathians." Typically, proposals for recommendations, amendments, and protocols will be drafted by subsidiary bodies and then submitted to the Conference of the Parties for adoption.

Endnotes

1. See the data at the website of the Central and East European Working Group for the Enhancement of Biodiversity: www.ceeweb.org/workingareas/conventions/carpathian
2. *The Status of the Carpathians*, a report developed as a part of the Carpathian Ecoregion Initiative, November 2001, p. 26.
3. See *Mountains and the Law — Emerging Trends*, page 6, by A. Villeneuve, A. Castelein, and M.A. Mekouar, FAO Legislative Studies — 75, 2002.
4. Specifically, the first meeting, Sharing the Experience, in Bolzano, Italy, June 17-18, 2002; the second meeting in Vaduz, Liechtenstein, October 14-15, 2002; the third meeting in Geneva, December 19-20, 2002; the fourth meeting in Vienna, February 24-25, 2003; and the final meeting in Bolzano, Italy, March 20-21, 2003.
5. By the Czech Republic, Hungary, Slovakia and Ukraine. See the website of the Carpathian Convention http://www.carpathianconvention.org/index.htm
6. The implementation protocols identified in art. 2 par. 2 of the Alpine Convention cover the following topics: population and culture; regional planning; prevention of air pollution; soil conservation; water management; conservation of nature and the countryside; mountain farming; mountain forests; tourism and recreation; transport; energy; and waste management.
7. Executive director of UNEP until 2006
8. Established by the Council Regulation 1085/2006 of 17 July 2006. For more information, see http://europa.eu/scadplus/leg/en/lvb/e50020.htm
9. "Implementing an International Mountain Convention – an Approach for the Delimitation of the Carpathian Convention Area", European Academy, Institute for Regional Development, Bolzano, 2006, p. 15.
10. Aust, *Modern Treaty Law and Practice*, Cambridge, 2000.
11. For a comprehensive analysis of the study: *Implementing an International Mountain Convention – An Approach for the Delimitation of the Carpathian Convention Area*, European Academy, Institute for Regional Development, Bolzano, 2006.
12. Carpathian Declaration, December 13, 2006. For a comprehensive look, see the following website: www.mountainpartnership.org/common/files/pdf/FINALDECLARATION.pdf
13. For more information, see: www.coe.int/t/e/Cultural_Cooperation/Environment/Landscape/Presentation/9_Text/02_Convention_EN.asp
14. The Stockholm Declaration is a soft law instrument, that is to say a non-binding instrument, even though some of the principles it contains have reached the status of customary international law. For a comprehensive view of the document please visit the following website: www.unep.org/Documents.multilingual/Default.asp?DocumentID=97&ArticleID=1503
15. The Rio Declaration is a soft law instrument. For a comprehensive view of the document please visit the following website: www.un.org/documents/ga/conf151/aconf15126-1annex1.htm
16. Our Common Future, the World Commission on Environment and Development (WCED), 1987, www.are.admin.ch/imperia/md/content/are/nachhaltigeentwicklung/brundtland_bericht.pdf.
17. For a comprehensive view of the document, please visit the following website: www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm
18. Mountain Partnership: <www.mountainpartnership.org/issues/resources/didyouknow.html>
19. These principles are recognised in various soft law instruments: Rio Declaration, Agenda 21, the Non Legally Binding Authoritative Statement of Principles for Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests (Forest Principles), etc., and some of them are reaffirmed as binding norms in some MEAs.
20. *Global Environmental Problems and International Environmental Agreements*, Swanson & Johnston, 1999, p 236.
21. *Evolution and Status of the Precautionary Principle in International Law*, Arie Trouwborst, 2002, p. 286.
22. *International Environmental Law*, Alexandre Kiss.and Dinah Shelton, 2004. p 113.
23. For more information, see http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004L0035:EN:HTML
24. Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, June 25, 1998 <www.unece.org/env/pp/>
25. Agenda 21, Chapter 10 <www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter10.htm>
26. For more information, see: The GEF Programmatic Approach – Current Understandings, GEF Council, GEF/C.17.Inf.11 <www.gefweb.org/Documents/Council_Documents/GEF_C17/C.17.Inf.11.doc>

27. The Conference of the Parties to CBD adopted a decision describing in details the ecosystem approach and laying down a set of principles and operational guidance for application of this approach. See Decision V/6, Conference of the Parties 5 <www.biodiv.org/decisions/default.asp?lg=0&m=cop-05&d=06#>
28. GMES Forum Thematic Sessions, Environmental Stress and Land Management, 2002.
29. For more information, see: www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter10.htm
30. Definition source: article 1 of the UN Convention to Combat Desertification <www.unccd.int>
31. The Future of Our Land, Facing the Challenge. Guidelines for Integrated Planning for Sustainable Management of Land Resources, FAO/UNEP, 1999 <www.fao.org/DOCREP/004/X3810E/x3810e04.htm#g>
32. See Chapter I.B of the Handbook
33. For more information, see: www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter10.htm
34. For more information, see: www.fao.org/DOCREP/004/X3810E/x3810e01.htm
35. For more information, see: www.un.org/jsummit/html/documents/summit_docs/2309_planfinal.htm
36. For more information, see: www.cos-soc.gc.ca/doc/imgi/im_planning_e.asp
37. For more information, see: www.un.org/esa/sustdev/natlinfo/indicators/indisd/english/chapt10e.htm
38. For more information, see: http://topsoil.nserl.purdue.edu/nserlweb/isco99/pdf/ISCOdisc/SustainingTheGlobalFarm/K014-Dumansky.pdf and http://siteresources.worldbank.org/INTEEI/936217-1115801208804/20486263/EnvironmentalIndicatorInitiativesAnOverviewofSelectedInitiativesattheWorldBank2002.pdf /
39. For more information, see: www.ramsar.org
40. For more information, see: www.biodiv.org/convention/default.shtml
41. For more information, see: http://ec.europa.eu/environment/nature/nature_conservation/eu_nature_legislation/habitats_directive/index_en.htm
42. This network is primarily based on a policy of contracts concluded with all the local partners, and aims to promote the conservation of natural habitats and the habitats of wild fauna and flora while taking into account the economic, social and cultural requirements and specific regional and local characteristics of each member state. For more information, see: http://ec.europa.eu/environment/life/life/natura2000.htm
43. European Commission, 1997
44. For more information, see: www.coe.int/t/e/cultural_co-operation/environment/cemat/gpssdec/Principles.pdf?L=E
45. For more information, see: www.coe.int/t/e/cultural_co-operation/environment/landscape/presentation/9_text/02_Convention_EN.asp#TopOfPage
46. For more information, see: http://ec.europa.eu/regional_policy/themes/spatial_en.htm
47. For more information, see: http://www.sisemin.gov.ee/atp/failid/terr.harta.ingrtf.rtf
48. For more information, see: http://www.coe.int/t/e/cultural_co-operation/environment/cemat/gpssdec/Principles.pdf?L=E
49. See Chapter I.B of the Handbook
50. For more information, see: http://www.coe.int/t/e/cultural_co-operation/environment/cemat/gpssdec/Principles.pdf?L=E
51. For more information on EPSON, see: www.espon.eu
52. For more information, see: www.units.it/~vplanet
53. *Europe 2000+: Co-operation for the Spatial Development of Europe*, 1994, analyses pressures on Europe's territory and made the case for cooperation in the field of spatial planning across Europe.
54. See Chapters I.G and I.I of the Handbook.
55. see Chapter I.D of the Handbook
56. see Chapter I.I of the Handbook
57. see Chapters I.C and I.K of the Handbook
58. For more information, see: www.convenzionedellealpi.org/page5a_en.htm#p1
59. For more information, see: http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/som_en.htm
60. The Status of the Carpathians, developed as part of the Carpathian Ecoregion Initiative <www.lcie.org/Docs/Regions/Carpathians/WWF%20Status%20of%20the%20Carpathians.pdf>.
61. Millennium Ecosystem Assessment <www.millenniumassessment.org/en/index.aspx>.
62. For more information, see: www.biodiv.org
63. For more information, see: www.cites.org
64. For more information, see: www.cms.int
65. For more information, see: www.ramsar.org
66. For more information, see: www.unccd.int
67. For more information, see: http://whc.unesco.org
68. For more information, see: www.coe.int/t/e/cultural_co-operation/environment/nature_and_biological_diversity/Nature_protection/
69. For more information, see: www.coe.int/t/e/Cultural_Co-operation/Environment/Landscape/
70. For more information, see: www.convenzionedellealpi.org/index
71. For more information, see: www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm
72. For more information, see: www.biodiv.org/programmes/socio-eco/use/addis-principles.asp
73. For more information, see: www.biodiv.org/decisions/default.aspx?m=cop-07
74. For more information, see: www.biodiv.org/2010-target/

75. For more information, see: www.countdown2010.net/index.html
76. For more information, see: www.iucnredlist.org/
77. For more information, see: www.coe.int/t/e/cultural_co-operation/environment/nature_and_biological_diversity/biodiversity/
78. *International Environmental Law*, Alexandre Kiss and Dinah Shelton, UNEP.
79. *International Environmental Law*, UNEP.
80. The Pan-European Biological and Landscape Diversity Strategy provides a definition of landscape diversity based on the Draft Recommendation on the Integrated Conservation of Cultural Landscape Areas as part of Landscape Policies of the Council of Europe: "the formal expression of the numerous relations existing in a given period between the individual or a society and a topographically defined territory, the appearance of which is the result of the action, over time, of natural and human factors and a combination of both."
81. Definition source: World Resources Institute <http://pubs.wri.org/pubs_content_print.cfm?ContentID=487>
82. Directive 2004/35 of the European Parliament and of the Council <http://eur-lex.europa.eu/LexUriServ/site/en/oj/2004/l_143/l_143200040430en00560075.pdf>
83. *International Environmental Law*, Alexandre Kiss and Dinah Shelton, UNEP
84. Definition source: http://glossary.eea.europa.eu/EEAGlossary/
85. General Guidelines for the Development of the Pan- European Ecological Network < www.coe.int/t/e/cultural_co-operation/environment/nature_and_biological_diversity/ecological_networks/peen/general_guidelines.asp#TopOfPage>
86. The European Green Belt is an initiative to transform the route of the former Iron Curtain into an ecological network and thus contribute to the conservation of biodiversity. The Green Belt is also aimed to become a tool for cooperation across borders between local communities and also an important instrument to fulfil the national and international commitments made by decision-makers. For more information, see: www.countdown2010.net
87. The Status of the Carpathians, developed as part of the Carpathian Ecoregion Initiative <www.lcie.org/Docs/Regions/Carpathians/WWF%20Status%20of%20the%20Carpathians.pdf>
88. For more information, see: www.lcie.org
89. For more information, see: www.clcp.ro/index.htm
90. For more information, see: www.coe.int/t/e/cultural_co-operation/environment/nature_and_biological_diversity/nature_protection/rec_by_country.asp#P41_886
91. The Status of the Carpathians, developed as part of the Carpathian Ecoregion Initiative <www.lcie.org/Docs/Regions/Carpathians/WWF%20Status%20of%20the%20Carpathians.pdf>
92. Definition source: www.wildberks.co.uk/glossary.htm
93. More information on the polluter pays principle can be found in Chapter I.B of the Handbook.
94. For more information, see: www.lagunadesantarosa.org/pdfs/Progress%20Report%20to%20Coastal%20Conservancy.pdf or www.dep.state.pa.us/dep/deputate/minres/bamr/documents/modelplan.html
95. Definition source: Convention on Biological Diversity, Introduction to Invasive Alien Species <www.biodiv.org/programmes/cross-cutting/alien/default.shtml>
96. For more information, see: www.biodiv.org/programmes/cross-cutting/alien/default.shtml
97. For more information, see: www.biodiv.org/decisions/default.aspx?dec=VI/23
98. For more information, see: www.iucn.org/places/medoffice/invasive_species/docs/iucn_guidline_prev_bio.pdf
99. For more information, see: www.coe.int/t/e/Cultural_Co-operation/Environment/Nature_and_biological_diversity/Nature_protection/sc24_inf01e.pdf?L=E
100. For more information, see: www.biodiv.org/biosafety/default.aspx
101. Directive 2001/18/EC of the European Parliament and of the Council on the Deliberate Release into the Environment of Genetically Modified Organisms and Repealing Council Directive 90/220/EEC, Regulation (EC) 1830/2003 Concerning the Traceability and Labelling of Genetically Modified Organisms and the Traceability of Food and Feed Products Produced from Genetically Modified Organisms.
102. See definition under Chapter I.B of the Handbook
103. For more information, see: https://www.ippc.int
104. Source: www.countdown2010.net/paneuropean.html
105. For more information, see: www.coe.int/t/e/cultural_co-operation/environment/nature_and_biological_diversity/ecological_networks/The_Emerald_Network/index.asp#TopOfPage
106. For more information, see: www.countdown2010.net/greenbelt.htm or www.iucn.org/en/projects/europe_green_belt.htm
107. For more information, see: www.alparc.org
108. For more information, see: www.iucn-ce.org/econets/database
109. The database is managed by UNEP–WCMC in partnership with the IUCN World Commission for Protected Areas and the World Database on Protected Areas Consortium <www.unep-wcmc.org/wdpa>
110. *A Guide to the Convention on Biological Diversity*, IUCN Environmental Law Centre and IUCN Biodiversity Programme
111. For more information, see: www.iucn.org/themes/wcpa/ppa/protectedareas.htm
112. CBD, Introduction to Protected Areas <www.biodiv.org/programmes/cross-cutting/protected/default.asp>

113. Pineschi, Fodella, *Environmental Protection of Mountain Areas*, in Treves, Pineschi, Fodella (a cur di), *International Law and Protection of Mountain Areas*, Milano, 2002, p. 16.

114. Bandyopadhyay, Rodda, Kattelmann, Kundzewicz, Kraemer, *Highland Waters - A Resource of Global Significance*, in Messerli, Ives (a cura di), *Mountains of the World: A Global Priority*, New York, 1997, p. 39.

115. See the definition under Chapter I.C of the Handbook.

116. For a comprehensive inquiry on the issues, see D. Z. Haman and D. A. Brown, *The Relevance of Chapter 18 of the Agenda 21 for Stato Governments – Protection of the Quality and Supply of Freshwater Resources/Application of Integrated Approaches to Development, Management and Use of Freshwater Resources*, University of Florida, IFAS Extension — AE 244, 2002.

117. IUCN, Paper No. 18, Maintaining Functioning of Freshwater Ecosystems: The Key to Sustainable Management of Water Resources by G. Bergkamp, M. Acreman, L. Safford, T. Matiza, prepared for the Department of Economic and Social Affairs — United Nations.

118. See Chapter 18 of Agenda 21, "Protection of the Quality and Supply of Freshwater Resources: Application of Integrated Approaches to the Development, Management and Use of Water Resources."

119. According to the provisions of Agenda 21, Chapter 13 "the existing land/water knowledge base regarding technologies and agricultural and conservation practices in the mountain regions of the world" shall be built or improved, by means of the establishment of new institutions at the local, regional and national level (13.5-c; 13.6-a) or strengthening the existing ones.

120. See article 5 of the Carpathian Convention

121. See article 7 of the Carpathian Convention

166. Directive 2000/60/EC of the European Parliament and of the Council Establishing a Framework for the Community Action in the Field of Water Policy, adopted on October 23, 2000. For the full text please see: http://europa.eu.int/eurlex/pri/en/oj/dat/2000/l_327/l_32720001222en00010072.pdf

123. This concept is explained under Chapter I.D of the Handbook.

124. For more information, see: www.unece.org/env/water/pdf/watercon.pdf

125. For the whole text of the convention please see the website: http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf

126. For the full text please see: www.icpdr.org/icpdr-pages/drpc.htm

127. Only Poland, not crossed by the Danube, is not party to the DRPC.

128. For the full text of the convention please see: www.convenzionedellealpi.org/page2_en.htm

129. Directive 2000/60/EC of the European Parliament and of the Council Establishing a Framework for the Community Action in the Field of Water Policy, adopted on October 23, 2000. For the full text please see: http://europa.eu.int/eurlex/pri/en/oj/dat/2000/l_327/l_32720001222en00010072.pdf

130. The Czech Republic, Hungary, Poland and Slovakia entered the European Union in 2004, while Romania's accession took place in 2007. The remaining two countries, Serbia and Ukraine, still need to solve some crucial issues before proceeding in the accession, but they are conforming their legislation with EU law.

131. See definition in Chapter I.B of the Handbook

132. Birnie and Boyle, *International Law and the Environment*, Oxford, 2002, p. 307.

133. For more information, see: http://untreaty.un.org/ilc/texts/instruments/english/commentaries/8_3_1994.pdf

134. See definition under Chapter I.K of the Handbook

135. For more information, see: www.ramsar.org/key_conv_e.htm

136. For the whole document, see: www.unece.org/env/water/publications/documents/guidelinesfloode.pdf

137. For more information, see: www.icpdr.org/icpdr-pages/drpc.htm

138. For more information see: www.savacommission.org

139. See the presentation "Bilateral Agreements, Instruments for Water Framework Directive Implementation" <www.riob.org/euro-riob/cracovie/28_sep_2004/Presentation_IulianaBogdan.pdf>

140. This principle is a milestone on the history of international environmental law, based in the famous award of the Trail Smelter case (1941) and reported since then by the Stockholm Declaration of 1972 (principle 21) and the Rio Declaration of 1992 (principle 2). It has become a customary international law.

141. Article 7 of the UN Convention on the Law of the Non-Navigational Uses of International Watercourses.

142. For more information, see Chapter I.K of the Handbook

143. This concept is explained in Chapter I.D of the handbook.

144. See explanation in Chapter I.B of the Handbook

145. Adelboden Declaration on Sustainable Agriculture and Rural Development in Mountain Regions (SARD-M) http://www.fao.org/sard/common/ecg/1200/en/AdelbodenDeclaration_en.pdf

146. For the whole text, see: http://ec.europa.eu/agriculture/foodqual/sustain_en.htm

147. *Traditional Methods: a Guarantee for Sustainability?* Robert Zwahlen <www.nuffic.nl/ciran/ikdm/4-3/articles/zwahlen.html>

148. See the definition under Chapter I.D of the Handbook.

149. *Environment in the European Union at the Turn of the Century*, EEA, 1999, page 338.

150. Council Regulation no 1698/2005 on Support for Rural Development by the European Agricultural Fund for Rural Development (EAFRD), art. 50.

151. Ibid.

152. For more information, see: www.convenzionedellealpi.org/page5a_en.htm#p3
153. For more information, see: www.fao.org/sard/en/init/index.html
154. A summary of the Policy Assessments for SARD-M can be found at: www.fao.org/sard/common/ecg/2361/en/Carpathian-ShortSummaryOctober2006EN1.pdf
155. *Environmental Integration and the Common Agricultural Policy, A Report to the European Commission*, DG Agriculture, 2002 http://ec.europa.eu/agriculture/envir/report/ieep_en.pdf
156. The concept of "ecological network" and "landscape" are explained in details under Chapter I.D of the Handbook on article 4, and the concept of " traditional land-use" under Chapter I.J on article 11 of the Convention
157. Definition source: http://www.biodiv.org/programmes/areas/dryland/definitions.asp
158. For the whole document, see: www.unep.org/Documents.multilingual/Default.asp?DocumentID=52&ArticleID=62&l=en
159. For the whole text, see: www.coe.int/t/e/cultural_cooperation/environment/nature_and_biological_diversity/biodiversity/Final_Declaration.asp
160. Second Ministerial Conference on the Protection of Forests in Europe, June 16-17, 1993, Helsinki, Resolution H1: General Guidelines for the Sustainable Management of Forests in Europe. <http://www.mcpfe.org/resolutions/helsinki/resolution_h1.pdf>
161. See the Pan-European criteria and indicators for sustainable forest management at <www.mcpfe.org/publications/pdf/improved_indicators.pdf>
162. Definition source: www.un.org/esa/forests/faq.html#sfm
163. For more information, see: www.fao.org/forestry/foris/webview/forestry2/index.jsp?siteId=1440&sitetreeId=3067&langId=1&geoId=0
164. For more information, see http://www.un.org/documents/ga/conf151/aconf15126-3annex3.htm
165. See the Proposals for Action at: www.un.org/esa/forests/pdf/ipf-iff-proposalsforaction.pdf
166. For more information, see: www.itto.or.jp
167. See the ITTO principles at: www.itto.or.jp/live/Live_Server/147/ps01e.doc
168. For more information, see: www.mcpfe.org
169. See annex 2 at: www.mcpfe.org/mcpfe/resolutions/lisbon/resolution_l2a2.pdf
170. For more information, visit the UNEP Forest Programme webpage at: www.unep-wcmc.org/habitats/mountains/homepage.htm
171. See the explanation under paragraph 3 of the article.
172. For more information, see http://www.forst.tu-muenchen.de/events/rmf2004/index_en.html
173. For more information, see http://www.fao.org/docrep/W3646E/w3646e02.htm
174. For more information, see http://www.forestry.gov.uk/fr/HCOU-4U4JEM
175. See the definition of virgin forest at: www.veenecology.nl/data/VirginForestsBulgaria.pdf
176. See the definition in Chapter I.D of the Handbook.
177. For more information, see: www.mcpfe.org/publications/pdf/protected_forests_in_europe.pdf
178. For more information: see: www.unece.org/trade/timber/docs/stats-25/supp/WA2-3.pdf
179. In October 2003 the international scientific conference Natural Forests in the Temperate Zone of Europe – Values and Utilization, held in Transcarpathia, gathered scientists from 26 countries with the objective of opening up new possibilities for studying natural forests in the temperate zone of Europe, to promote and support their long-term protection and conservation, and to intensify international and interdisciplinary cooperation and partnership in research on natural forests. See the outputs of the conference at: www.wsl.ch/forest/waldman/rakhiv_2003/conf.pdf
180. For more information, see: Protection Forests: Recognizing and Maintaining the Forest Influence with Regard to Hydrogeomorphic Processes, David J. Wilford, John L. Innes and Dan L. Hogan, 2006 www.wsl.ch/lm/publications/archiv/infoV80_1-en.ehtml
181. For the whole document, see: http://www.unece.org/env/water/publications/documents/guidelinesfloode.pdf
182. For more information, see: www.unece.org/env/water/publications/documents/guidelinesfloode.pdf
183. For the whole document, see: http://europa.eu/eur-lex/en/com/cnc/2004/com2004_0472en01.pdf
184. For more detailed responsibilities for local authorities, see the explanation under paragraphs 1 to 5 of article 7.
185. For more information, see EEA report on *Transport and Environment in Europe*. <http://reports.eea.europa.eu/briefing_2004_3/en/Briefing-TERM2004web.pdf>
186. The European Investment Bank, Evaluation of transport projects in Central and Eastern Europe, 2003, http://jaspers.europa.eu/Attachments/ev/ev_transport_en.pdf and European Conference of Ministers of Transport, Council of Ministers, Transport Policies in the Countries of CEE – A Decade of Integration <www.cemt.org/online/council/2001/CM0101Fe.pdf> For more information, every year the European Conference of Ministers of Transport (ECMT) releases a report on *Trends in the Transport Sector* with the aim to describe actual developments in the transport sector in Europe and to show how the situation has changed since 1970 <www.cemt.org/pub/pubpdf/Depl2003E.pdf>
187. Recommendations for Actions towards Sustainable Tourism of the Joint Expert Group of Transport and Environment, which is an advisory body for DG TREN and DG ENVIRONMENT of the European Commission. For more information see: http://ec.europa.eu/environment/trans/report2000.pdf

188. For the whole text, please see: http://www1.oecd.org/publications/e-book/9702191E.PDF

189. The Centre was founded in 1996 to provide leadership in achieving sustainable transport in Canada. For more information, see http://cst.uwinnipeg.ca/index.html

190. Sustainable Transportation, prepared in connection with Canada's participation at the meeting of the United Nations Commission on Sustainable Development, April 1997, by Environment Canada and Transport Canada, 1997, Ottawa, Canada <www.iigr.ca/pdf/documents/1172_Sustainable_Transportat.pdf>

191. For a comprehensive view of this document, please visit: <www.unece.org/doc/ece/rcte/ece.rcte.conf..2.final.e.pdf>

192. For more information, see: www.euro.who.int/document/peh-ehp/charter_transporte.pdf

193. White Paper on the Future Development of the Common Transport Policy, European Commission, (COM(92)0494).

194. *White Paper on European Transport Policy for 2010: Time to Decide*, European Commission, COM (2001) 370 Final, http://ec.europa.eu/comm/energy_transport/library/lb_com_2001_0370_en.pdf

195. For more information, see: http://ec.europa.eu/transport/transport_policy_review/index_en.htm

196. Decision No 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31996D1692:EN:HTML>

197. For more information, see the *Pan-European Transport Corridors and Areas Status Report*, <http://ec.europa.eu/ten/transport/documentation/doc/2005_11_24/2005_report_paneurostar_en.pdf>

198. For more information, see: www.unece.org/trans/main/ter/ter.html

199. Air quality guidelines have been published by WHO in 1987 and were revised in 1997. For more information see: www.who.int/phe/health_topics/outdoorair_aqg/en/index.html

200. For more information see: http://esteast.unep.ch/includes/community_file.asp?community=esteast&file=C8D2FDE1-35A3-416B-B711-EA5F765B58EC

201. The Convention on Long-range Transboundary Air Pollution was adopted in 1979 in Geneva by 34 governments and the European Community (EC). For more information, see: www.unece.org/env/lrtap

202. The UN Framework Convention on Climate Change was signed at the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro (known by its popular title, the Earth Summit) by 154 countries. For more information, see: http://unfccc.int/meetings/cop_12/items/3754.php

203. See the Introduction of the Handbook

204. For more information, see: www.convenzionedellealpi.org/page1_en.htm

205. Entered into force on December 18, 2002

206. Austria, France, Germany, Liechtenstein and Slovenia.

207. See Chapter I.B of the Handbook.

208. See above, under main concepts, the OECD definition of sustainable transport.

209. This notion is explained in Chapter I.H of the Handbook

210. This notion is explained in Chapter I.B of the Handbook

211. For more information, see: www.thepep.org/CHWebSite/chviewer.aspx?cat=c5

212. For more information, see http://ec.europa.eu/transport/infrastructure/index_en.htm

213. *An Integrated Effort to Create an Environmentally Friendly Transportation System in Lund*, Trivector Traffic AB. <www.lund.se/upload/Kommunkontoret/Information/Engelsk%20site/LuMatseng%5B1%5D.pdf>

214. The UNWTO is a specialised agency of the United Nations. It is the leading international organisation in the field of tourism. It serves as a global forum for tourism policy issues and a practical source of tourism know-how <www.world-tourism.org/aboutwto/eng/menu.html>

215. Definition from the Charter for Sustainable Tourism, developed at the World Conference on Sustainable Tourism, Lanzarote, Canary Islands, Spain on April 27-28, 1995 <www.world-tourism.org/sustainable/doc/Lanz-en.pdf>

216. UNEP Production and Consumption Branch, Tourism <www.uneptie.org/PC/tourism/sensitive/mountain_tourism.htm>

217. WTO-UNEP Concept Paper International Year of Ecotourism 2002 <www.world-tourism.org/sustainable/IYE/WTO-UNEP-Concept-Paper.htm>

218. For more information, see: http://hq.unep.org/DPDL/civil_society/GCSF/worldwatch_gcsfdoc11.pdf

219. These notions are explained in detail under Chapters I.D and I.J of the Handbook.

220. For more information, see the Sustainable Tourism Information Portal at: http://destinet.ewindows.eu.org/policies_resources/fol955810

221. More information can be found under Chapter I.B of the Handbook.

222. A comprehensive plan of action to be taken globally, nationally and locally by organisations of the United Nations, governments, and major groups in every area in which human impacts on the environment, agreed during the Rio Conference, 1992.

223. Adopted in 1989 during by the Inter-Parliamentary Conference on Tourism organised by the Inter-Parliamentary Union and the World Tourism Organization <www.world-tourism.org/sustainable/doc/THE%20HAGUE%20DECLARATION.89.PDF>

224. Plan of Action agreed upon during the UN World Summit on Sustainable Development, 2002, Johannesburg. It sets out new commitments and priorities for actions on sustainable development in areas as diverse as poverty eradication, health, trade, education, science and technology,

regional concerns, natural resources, and the institutional arrangements. For the full text of the Johannesburg Plan of Implementation, visit: www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

225. National language versions are available for downloading at: www.world-tourism.org/code_ethics/eng/brochure.htm

226. For more information, see: www.biodiv.org/programmes/socio-eco/tourism/guidelines.asp

227. See the whole text of the UNEP Principles for the Implementation of Sustainable Development at: www.uneptie.org/pc/tourism/policy/about_principles.htm

228. Adopted during the World Conference on Sustainable Development, in 1995 <www.insula.org/charte.htm>

229. Adopted by the General Assembly of the World Tourism Organization in 1985 <www.world-tourism.org/sustainable/doc/1985%20TOURISM%20BILL%20OF%20RIGHTS.pdf>

230. Developed in 1996 by the World Tourism Organization, the World Travel and Tourism Council and Earth Council.

231. Article 2 of the Alpine Convention.

232. For more information, see: http://puck.wtoelibrary.org/vl=691038/cl=19/nw=1/rpsv/journal/publication9284402808_home.htm

233. For more information, see: www.uneptie.org/pc/tourism/library/local-agenda21.htm

234. For more information, see: www.snvworld.org/cds/rgTUR/documents/GTZ%20docs/csd%207%20GTZ.pdf

235. For more information, see: www.uneptie.org/pc/tourism/library/A%20Guide%20for%20Policy%20Makers.htm

236. Tourism and Local Agenda 21: The Role of Local Authorities in Sustainable Tourism, UNEP, 2003 <www.uneptie.org/pc/tourism/library/local-agenda21.htm>

237. See the definition under Chapter I.D of the Handbook.

238. Report prepared by the Department of Economic and Social Affairs of the United Nations Secretariat, April-May 1998 <www.un.org/esa/documents/ecosoc/cn17/1998/ecn171998-4.htm>

239. For more information, see: www.uneptie.org/pc/cp/understanding_cp/home.htm#definition

240. For more information, see: http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31996L0061&model=guichett

241. Article 1 of the UNECE Convention on the Transboundary Effects of Industrial Accidents

242. This concept is explained under article 12 of the Handbook.

243. This UNEP Declaration is a voluntary but public commitment to the strategy and practice of cleaner production signed by governments, businesses, NGOs, international organisations, etc. <www.uneptie.org/pc/cp/declaration>

244. For more information, see: www.unece.org/env/teia/welcome.htm

245. See the list of IAEA conventions at: www.iaea.org/Publications/Documents/Conventions/index.html

246. For more information, see: www.unece.org/env/documents/2003/kievconference/ece.cep.97.e.rev.1.pdf

247. For more information, see: www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter30.htm

248. For more information, see: www2.oecd.org/guidingprinciples/toc_index.asp

249. For more information, see: www.ec.gc.ca/cleanair-airpur/Clean_Air_and_Energy-WSEF1FB49E-1_En.htm

250. *Natural Selection: Evolving Choices for Renewable Energy Technology and Policy*, ed. Peter Fries, 2000. ed. Amr Abdel Hai, 2000, United Nations Environment Programme, Division of Technology, Industry and Economics <www.unep.fr/energy/publications/pdfs/naturalselection.pdf>

251. For more information, see the *EU Green Paper on Energy Efficiency* <http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2005&nu_doc=265>

252. For more information, see Agenda 21 <www.gdrc.org/u-gov/a21-consum-patterns.html>

253. www.unfccc.int

254. http://unfccc.int/resource/docs/convkp/kpeng.html

255. Article 2 k) of the Alpine Convention.

256. For more information, see: www.mineralresourcesforum.org/incidents/BaiaMare/ www.mineralresourcesforum.org/incidents/BaiaMare/docs/final_report.pdf www.rec.org/REC/Publications/CyanideSpill/ENG-Cyanide.pdf

257. For more information, see: www.uneptie.org/pc/mining/mine_env.htm

258. The Australian government developed booklets providing an overview of *Best Practice Environmental Management in Mining* <www.deh.gov.au/settlements/industry/minerals/index.html> and *Guidelines for Mineral Exploration and Mining Within Conservation Reserves and Other Environmentally Sensitive Lands in Western Australia* <www.doir.wa.gov.au/documents/mineralsandpetroleum/info11.pdf>

259. The Canadian Institute of Mining, Metallurgy and Petroleum developed the Standards on Mineral Resources and Reserve — Definitions and Guidelines <www.cim.org/definitions/CIMdef1.PDF>

260. For more information, see: www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POIToc.htm

261. For more information, see: www.ilo.org/ilolex/cgi-lex/convde.pl?C176

262. For more information, see: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:102:0015:01:EN:HTML

263. For more information, see: http://whc.unesco.org/en/conventiontext/

264. For more information, see: www.unesco.org/culture/ich/index.php?pg=00006
265. Article 2 of the Convention for the Safeguarding of the Intangible Cultural Heritage
266. For more information, see http://whc.unesco.org/en/list
267. For more information, see http://portal.unesco.org/culture/en/file_download.php/1422690320114549c199903cf8ba93f9Guidelines_lht.pdf
268. Decision VII/16 <www.biodiv.org/decisions/default.aspx?dec=VII/16>
269. These guidelines, addressed to the states parties and the Intergovernmental Committee of the Convention, aim to facilitate the implementation of the World Heritage Convention. For more information, see: http://whc.unesco.org/archive/opguide05-en.pdf
270. Inspired by article 5 of the WHC and article 13 of the Intangible Cultural Heritage Convention.
271. See the text of article 6 of the WHC and article 19 of the Intangible Cultural Heritage Convention
272. For more information, see: http://whc.unesco.org/en/initiatives/34/
273. The Convention was adopted in Granada by the Member States of the Council of Europe in 1985 and all Carpathian countries, apart from Poland, are parties to it. The main purpose of the convention is to reinforce and promote policies for the conservation and enhancement of Europe's heritage. It also affirms the need for European solidarity with regard to heritage conservation, and it is designed to foster practical cooperation among the parties. It establishes the principles of "European co-ordination of conservation policies," including consultations regarding the thrust of the policies to be implemented. For more information, see: http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=121&CM=7&DF=28/02/2006&CL=ENG
274. Article 10, paragraph 5.
275. A charrette is an intensive planning session where citizens, designers and others collaborate on a vision for development.
276. This notion has been defined under Chapter I.D of the handbook.
277. For more information, see: www.cites.org
278. More details can be found in Chapter I.L of the Handbook.
279. Kiss, A. and Shelton, D., *International Environmental Law*, 3rd ed., New York, 2004.
280. For more information, see: www.amstat.org/Careers/copss/index.cfm?fuseaction=risk and the EEA publication Environmental Risk Assessment — Approaches, Experiences and Information Sources <http://reports.eea.europa.eu/GH-07-97-595-EN-C2/en/riskindex.html>
281. The Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 1991. See the text of the convention at: www.unece.org/env/eia/documents/conventiontextenglish.pdf
282. International Association for Impact Assessment, and Institute of Environmental Assessment. Principles of Environmental Impact Assessment Best Practice, 1999.
283. *A Practical Guide to the Strategic Environmental Assessment Directive* was developed jointly by the Office of the Deputy Prime Minister, the Scottish Executive, the Welsh Assembly Government and the Department of the Environment in Northern Ireland. A pdf version is available at: <www.iema.net/index.php/sections/readingroom/show/7915>
284. See, e.g., Concurring Opinion of J. Weeramantry in Case Concerning the Gabcikovo-Nagymaros Project (Hungary v. Slovakia), 37 I.L.M. 162, 214 (1998).
285. For more information, see: www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm
286. For more information, see: http://unfccc.int/resource/docs/convkp/conveng.pdf
287. For more information, see: www.biodiv.org/convention/convention.shtml
288. For more information, see: www.biodiv.org/biosafety/protocol.shtml
289. For more information, see: www.unece.org/env/eia/documents/protocolenglish.pdf
290. Except Serbia, all of the Carpathian countries are parties to the Aarhus Convention.
291. For more information, see: http://ec.europa.eu/environment/eia/full-legal-text/9711.htm
292. For more information, see http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32001L0042:EN:HTML
293. Entrix, Resources Glossary <www.entrix.com/resources/glossary.aspx>
294. The concept of a monitoring system focusing on biodiversity is explained under Chapter I.D of the Handbook.
295. Source: ISO/IEC Guide 2:2004.
296. European Environmental Agency, Glossary <http://glossary.eea.europa.eu/EEAGlossary/E/environmental_indicator>
297. OECD, Environment Directorate, OECD Key Environmental Indicators, 2004.
298. European Environmental Agency Glossary.
299. See Chapter I.I of the Handbook
300. For more information, see: http://hq.unep.org/DEWA/early_warning/index.asp http://www.unisdr.org/wcdr/other-meetings/iewp/IEWP-brochure.pdf
301. Access to information and environmental awareness are explained in more details under Chapter I.L of the Handbook.
302. For more information, see: www.pops.int/documents/convtext/convtext_en.pdf
303. For more information, see: www.blacksea-commission.org/OfficialDocuments/Convention_iframe.htm
304. For more information, see: www.icpdr.org/icpdr-pages/drpc.htm

305. GA Resolution A/RES/37/7 from 28 Oct 1982
306. For more information, see: http://portal.unesco.org/education/en/ev.php-URL_ID=23279&URL_DO=DO_TOPIC&URL_SECTION=201.html
307. Intergovernmental Conference on Environmental Education, 1977.
308. For more information, see: www.rec.org/REC/Programs/Greenpack/
309. See *The Aarhus Convention: An Implementation Guide* <www.unece.org/env/pp/acig.pdf>, as well as Practical guides for Authorities on the Aarhus Convention for Ukraine and Serbia <www.rec.org/REC/Programs/PublicParticipation.html>
310. See the website of the Convention: www.unece.org/env/pp
311. Article 2, Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Aarhus, 1998.
312. For more information, see: www.unece.org/env/documents/2005/pp/ece/ece.mp.pp.2005.2.add.5.e.pdf
313. The Rules of procedure were adopted at the first COP, as prescribed in article 14 paragraph 2 (g) of the Carpathian Convention. For more information, see: www.carpathianconvention.org/NR/rdonlyres/ED5D68F3-23D9-49C1-90BF-A0522A0B5EC4/0/FINALCOP1DECISIONS.pdf

    It is important to emphasise that "in the event of any conflict between any provision of these rules of procedure any provision of the Convention, the Convention shall prevail." According to the Secretariat, a statute has not been drafted yet, and no subsidiary bodies have been established. Therefore, no draft provisions are available, and no rules, apart from what the Convention itself and the ROP say, have been developed.
314. A state is a party to a convention when it has expressed its consent to be bound by the treaty and has met other formal requirements, and the treaty is in force, according to article 2.1 (g) of the Vienna Convention on the Law of Treaties.
315. The executive secretary, according to Rule 22.1 is the head of the Secretariat.
316. This possibility is foreseen also in article 14.3 of the Convention, by the phrase "unless otherwise decided by the Conference."
317. Rule 3.
318. Rule 4.2.
319. As stated in article 14.4 and in Rule 4.3.
320. Rule 4.4.
321. Rule 5.
322. Article 14.2 (d).
323. Rule 16.1.
324. Rule 16.3.
325. Rule 20.
326. Rule 16.3.
327. A rotating presidency is a common practice in international law.
328. As confirmed in the ROP by Rule 16.4.
329. Rule 19.
330. Rule 17.1 and 17.2.
331. Rule 17.1.
332. Rule 6.
333. Rule 17.3.
334. Rule 7.
335. Rule 8.
336. Rule 36.
337. Rule 9.
338. Rule 10.
339. Rule 12.
340. Rule 11.
341. Rule 30.
342. Rule 26.1.
343. Rule 27.
344. Rule 26.2.
345. Rule 32.
346. Rule 33.
347. Rule 38: "These rules of procedure may be amended by consensus by the conference of the Parties."
348. Rule 34.
349. Article 14.5 (b).
350. Article 14.5.
351. Rule 35.4.
352. Rule 12.
353. Rule 21.5.
354. Rule 24.2.
355. Rule 21.1.

Annexes

Annex I
Framework Convention on the Protection and Sustainable Development of the Carpathians

"The Parties"

Acknowledging that the Carpathians are a unique natural treasure of great beauty and ecological value, an important reservoir of biodiversity, the headwaters of major rivers, an essential habitat and refuge for many endangered species of plants and animals and Europe's largest area of virgin forests, and AWARE that the Carpathians constitute a major ecological, economic, cultural, recreational and living environment in the heart of Europe, shared by numerous peoples and countries;

Realizing the importance and ecological, cultural and socio-economic value of mountain regions, which prompted the United Nations General Assembly to declare 2002 the International Year of Mountains; RECOGNIZING the importance of Mountain areas, as enshrined in Chapter 13 (Sustainable Mountain Development) of the Declaration on Environment and Development ('Agenda 21', Rio de Janeiro, 1992), and in the Plan of Implementation of the World Summit on Sustainable Development;

Recalling the Declaration on Environment and Sustainable Development in the Carpathian and Danube Region (Bucharest, 2001);

Noting the pertinent provisions of and principles enshrined in relevant global, regional and sub-regional environmental legal instruments, strategies and programmes;

Aiming at ensuring a more effective implementation of such already existing instruments, and BUILDING upon other international programmes;

Recognizing that the Carpathians constitute the living environment for the local people, and ACKNOWLEDGING the contribution of the local people to sustainable social, cultural and economic development, and to preserving traditional knowledge in the Carpathians;

Acknowledging the importance of sub-regional cooperation for the protection and sustainable development of the Carpathians in the context of the 'Environment for Europe' process;

Recognizing the experience gained in the framework of the Convention on the Protection of the Alps (Salzburg, 1991) as a successful model for the protection of the environment and sustainable development of mountain regions, providing a sound basis for new partnership initiatives and further strengthening of cooperation between Alpine and Carpathian states;

Being aware of the fact that efforts to protect, maintain and sustainably manage the natural resources of the Carpathians cannot be achieved by one country alone and require regional cooperation, and of the added value of transboundary cooperation in achieving ecological coherence;

Have agreed as follows:

Article 1
Geographical scope

1. The Convention applies to the Carpathian region (hereinafter referred to as the 'Carpathians'), to be defined by the Conference of the Parties.
2. Each Party may extend the application of this Convention and its Protocols to additional parts of its national territory by making a declaration to the Depositary, provided that this is necessary to implement the provisions of the Convention.

Article 2
General objectives and principles

1. The Parties shall pursue a comprehensive policy and cooperate for the protection and sustainable development of the Carpathians with a view to *inter alia* improving quality of life, strengthening local economies and communities, and conservation of natural values and cultural heritage.
2. In order to achieve the objectives referred to in paragraph 1, the Parties shall take appropriate measures, in the areas covered by Articles 4 to 13 of this Convention by promoting:
   (a) the precaution and prevention principles,
   (b) the 'polluter pays' principle,
   (c) public participation and stakeholder involvement,
   (d) transboundary cooperation,
   (e) integrated planning and management of land and water resources,
   (f) a programmatic approach, and
   (g) the ecosystem approach.

3. To achieve the objectives set forth in this Convention and to ensure its implementation, the Parties may, as appropriate, develop and adopt Protocols.

Article 3
Integrated approach to the land resources management

The Parties shall apply the approach of the integrated land resources management as defined in Chapter 10 of the Agenda 21, by developing and implementing appropriate tools, such as integrated management plans, relating to the areas of this Convention.

Article 4
Conservation and sustainable use of biological and landscape diversity

1. The Parties shall pursue policies aiming at conservation, sustainable use and restoration of biological and landscape diversity throughout the Carpathians. The Parties shall take appropriate measures to ensure a high level of protection and sustainable use of natural and semi-natural habitats, their continuity and connectivity, and species of flora and fauna being characteristic to the Carpathians, in particular the protection of endangered species, endemic species and large carnivores.
2. The Parties shall promote adequate maintenance of semi-natural habitats, the restoration of degraded habitats, and support the development and implementation of relevant management plans.
3. The Parties shall pursue policies aiming at the prevention of introduction of alien invasive species and release of genetically modified organisms threatening ecosystems, habitats or species, their control or eradication.
4. The Parties shall develop and/or promote compatible monitoring systems, coordinated regional inventories of species and habitats, coordinated scientific research, and their networking.
5. The Parties shall cooperate in developing an ecological network in the Carpathians, as a constituent part of the Pan-European Ecological Network, in establishing and supporting a Carpathian Network of Protected Areas, as well as enhance conservation and sustainable management in the areas outside of protected areas.
6. The Parties shall take appropriate measures to integrate the objective of conservation and sustainable use of biological and landscape diversity into sectoral policies, such as mountain agriculture, mountain forestry, river basin management, tourism, transport and energy, industry and mining activities.

Article 5
Spatial planning

1. The Parties shall pursue policies of spatial planning aimed at the protection and sustainable development of the Carpathians, which shall take into account the specific ecological and socio-economic conditions in the Carpathians and their mountain ecosystems, and provide benefits to the local people.
2. The Parties shall aim at coordinating spatial planning in bordering areas, through developing transboundary and/or regional spatial planning policies and programmes, enhancing and supporting co-operation between relevant regional and local institutions.
3. In developing spatial planning policies and programmes, particular attention should, *inter alia*, be paid to:

(a) transboundary transport, energy and telecommunications infrastructure and services,

(b) conservation and sustainable use of natural resources,

(c) coherent town and country planning in border areas,

(d) preventing the cross-border impact of pollution,

(e) integrated land use planning, and environmental impact assessments.

Article 6
Sustainable and integrated water/river basin management

Taking into account the hydrological, biological and ecological, and other specificities of mountain river basins, the Parties shall:

(a) take appropriate measures to promote policies integrating sustainable use of water resources, with land-use planning, and aim at pursuing policies and plans based on an integrated river basin management approach, recognizing the importance of pollution and flood management, prevention and control, and reducing water habitats fragmentation,

(b) pursue policies aiming at sustainable management of surface and groundwater resources, ensuring adequate supply of good quality surface and groundwater as needed for sustainable, balanced and equitable water use, and adequate sanitation and treatment of waste water,

(c) pursue policies aiming at conserving natural watercourses, springs, lakes and groundwater resources

as well as preserving and protecting wetlands and wetland ecosystems, and protecting against natural and anthropogenic detrimental effects such as flooding and accidental water pollution,

(d) further develop a coordinated or joint system of measures, activities and early warning for transboundary impacts on the water regime of flooding and accidental water pollution, as well as co-operate in preventing and reducing the damages and giving assistance in restoration works.

Article 7
Sustainable agriculture and forestry

1. The Parties shall maintain the management of land traditionally cultivated in a sustainable manner, and take appropriate measures in designing and implementing their agricultural policies, taking into account the need of the protection of mountain ecosystems and landscapes, the importance of biological diversity, and the specific conditions of mountains as less favoured areas.
2. The Parties shall pursue policies aiming at developing and designing appropriate instruments, such as the crucially important agri-environmental programs in the Carpathians, enhancing integration of environmental concerns into agricultural policies and land management plans, while taking into account the high ecological importance of Carpathian mountain ecosystems, such as natural and semi-natural grasslands, as part of the ecological networks, landscapes and traditional land-use.
3. The Parties shall pursue policies aiming at promoting and supporting the use of instruments and programs, compatible with internationally agreed principles of sustainable forest management.
4. The Parties shall apply sustainable mountain forest management practices in the Carpathians, taking into account the multiple functions of forests, the high ecological importance of the Carpathian mountain ecosystems, as well as the less favourable conditions in mountain forests.
5. The Parties shall pursue policies aiming at designating protected areas in natural, especially virgin forests in sufficient size and number, with the purpose to restrict or adapt their use according to the objectives of conservation to be achieved.
6. The Parties shall promote practice of environmentally sound agricultural and forestry measures assuring appropriate retention of precipitation in the mountains with a view to better prevent flooding and increase safety of life and assets.

Article 8
Sustainable transport and infrastructure

1. The Parties shall pursue policies of sustainable transport and infrastructure planning and development, which take into account the specificities of the mountain environment, by taking into consideration the protection of sensitive areas, in particular biodiversity-rich areas, migration routes or areas of international importance, the protection of biodiversity and landscapes, and of areas of particular importance for tourism.
2. The Parties shall cooperate towards developing sustainable transport policies which provide the benefits of mobility and access in the Carpathians, while minimizing harmful effects on human health, landscapes, plants, animals, and their habitats, and incorporating sustainable transport demand management in all stages of transport planning in the Carpathians.
3. In environmentally sensitive areas the Parties shall co-operate towards developing models of environmentally friendly transportation.

Article 9
Sustainable tourism

1. The Parties shall take measures to promote sustainable tourism in the Carpathians, providing benefits to the local people, based on the exceptional nature, landscapes and cultural heritage of the Carpathians, and shall increase cooperation to this effect.
2. Parties shall pursue policies aiming at promoting transboundary cooperation in order to facilitate sustainable tourism development, such as coordinated or joint management plans for transboundary or bordering protected areas, and other sites of touristic interest.

Article 10
Industry and energy

1. The Parties shall promote cleaner production technologies, in order to adequately prevent, respond to and remediate industrial accidents and their consequences, as well as to preserve human health and mountain ecosystems.
2. The Parties shall pursue policies aiming at introducing environmentally sound methods for the production, distribution and use of energy, which minimize adverse effects on the biodiversity and landscapes, including wider use of renewable energy sources and energy-saving measures, as appropriate.

3. Parties shall aim at reducing adverse impacts of mineral exploitation on the environment and ensuring adequate environmental surveillance on mining technologies and practices.

Article 11
Cultural heritage and traditional knowledge

The Parties shall pursue policies aiming at preservation and promotion of the cultural heritage and of traditional knowledge of the local people, crafting and marketing of local goods, arts and handicrafts. The Parties shall aim at preserving the traditional architecture, land-use patterns, local breeds of domestic animals and cultivated plant varieties, and sustainable use of wild plants in the Carpathians.

Article 12
Environmental assessment/information system, monitoring and early warning

1. The Parties shall apply, where necessary, risk assessments, environmental impact assessments, and strategic environmental assessments, taking into account the specificities of the Carpathian mountain ecosystems, and shall consult on projects of transboundary character in the Carpathians, and assess their environmental impact, in order to avoid transboundary harmful effects.
2. The Parties shall pursue policies, using existing methods of monitoring and assessment, aiming at promoting:

(a) cooperation in the carrying out of research activities and scientific assessments in the Carpathians,

(b) joint or complementary monitoring programmes, including the systematic monitoring of the state of the environment,

(c) comparability, complementarity and standardization of research methods and related data-acquisition activities,

(d) harmonization of existing and development of new environmental, social and economic indicators,

(e) a system of early warning, monitoring and assessment of natural and manmade environmental risks and hazards, and

(f) an information system, accessible to all Parties.

Article 13
Awareness raising, education and public participation

1. The Parties shall pursue policies aiming at increasing environmental awareness and improving access of the public to information on the protection and sustainable development of the Carpathians, and promoting related education curricula and programmes.
2. The Parties shall pursue policies guaranteeing public participation in decision-making relating to the protection and sustainable development of the Carpathians, and the implementation of this Convention.

Article 14
Conference of the Parties

1. A Conference of the Parties (hereinafter referred to as the 'Conference') is hereby established.
2. The Conference shall discuss common concerns of the Parties and make the decisions necessary to promote the effective implementation of the Convention. In particular, it shall:

(a) regularly review and support the implementation of the Convention and its Protocols,

(b) adopt amendments to the Convention pursuant to Article 19,

(c) adopt Protocols, including amendments thereto, pursuant to Articles 18,

(d) nominate its President and establish an intersessional executive body, as appropriate and in accordance with its Rules of Procedure,

(e) establish such subsidiary bodies, including thematic working groups, as are deemed necessary for the implementation of the Convention, regularly review reports submitted by its subsidiary bodies and provide guidance to them,

(f) approve a work program, financial rules and budget for its activities, including those of its subsidiary bodies and the Secretariat, and undertake necessary arrangements for their financing pursuant to Article 17,

(g) adopt its Rules of Procedure,

(h) adopt or recommend measures to achieve the objectives laid down in Articles 2 to 13,

(i) as appropriate, seek the cooperation of competent bodies or agencies, whether national or international, governmental or non-governmental and promote and strengthen the relationship with other relevant conventions while avoiding duplication of efforts, and

(j) exercise other functions as may be necessary for the achievement of the objectives of the Convention.

3. The first session of the Conference shall be convened not later than one year after the date of entry into force of the Convention. Unless otherwise decided by the Conference, ordinary sessions shall be held every three years.

4. Extraordinary sessions of the Conference shall be held at such other times as may be decided either by the Conference at ordinary session or at the written request of any Party, provided that, within three months of the request being communicated to all the other Parties by the Secretariat, it is supported by at least one third of the Parties.

5. The Parties may decide to admit as observers at the ordinary and extraordinary sessions of the Conference:

(a) any other State,

(b) any national, intergovernmental or non-governmental organization the activities of which are related to the Convention. The conditions for the admission and participation of observers shall be established in the Rules of Procedure. Such observers may present any information or report relevant to the objectives of the Convention.

6. The Conference shall reach its decisions by consensus.

Article 15
Secretariat

1. A Secretariat is hereby established.

2. The functions of the Secretariat shall be:

(a) to make arrangements for sessions of the Conference and to provide them with services as required,

(b) to compile and transmit reports submitted to it,

(c) to coordinate its activities with the secretariats of other relevant international bodies and conventions,

(d) to prepare reports on the exercising of its functions under this Convention and its Protocols, including financial reports, and present them to the Conference,

(e) to facilitate research, communication and information exchange on matters relating to this Convention, and

(f) to perform other secretariat functions as may be determined by the Conference.

Article 16
Subsidiary bodies

The subsidiary bodies, including thematic working groups established in accordance with Article 14 paragraph 2 (e), shall provide the Conference, as necessary, with technical assistance, information and advice on specific issues related to the protection and sustainable development of the Carpathians.

Article 17
Financial contributions

Each Party shall contribute to the regular budget of the Convention in accordance with a scale of contributions as determined by the Conference.

Article 18
Protocols

1. Any Party may propose Protocols to the Convention.

2. The draft Protocols shall be circulated to all Parties through the Secretariat not later than six months before the Conference session at which they are to be considered.

3. The Protocols shall be adopted and signed at the Conference sessions. The entry into force, amendment of and withdrawal from the Protocols shall be done mutatis mutandis in accordance with Articles 19, 21 paragraphs 2 to 4 and Article 22 of the Convention. Only a Party to the Convention may become Party to the Protocols.

Article 19
Amendments to the Convention

1. Any Party may propose amendments to the Convention.

2. The proposed amendments shall be circulated to all Parties to the Convention through the Secretariat not later than six months before the Conference session at which the amendments are to be considered.

3. The Conference shall adopt the proposed amendments to the Convention by consensus.

4. The amendments to the Convention shall be subject to ratification, approval or acceptance. The amendments shall enter into force on the ninetieth day after the date of deposit of the fourth instrument of ratification, approval or acceptance. Thereafter, the amendments shall enter into force for any other Party on the ninetieth day after the date of deposit of its instrument of ratification, approval or acceptance.

Article 20
Settlement of disputes

The Parties shall settle disputes arising from the interpretation or implementation of the Convention by negotiation or any other means of dispute settlement in accordance with international law.

Article 21
Entry into force

1. This Convention shall be open for signature at the Depositary from 22 May 2003 to 22 May 2004.
2. This Convention shall be subject to ratification, acceptance, or approval by the Signatories. The Convention shall be open for accession by non-Signatories. Instruments of ratification, acceptance, approval and accession shall be deposited with the Depositary.
3. The Convention shall enter into force on the ninetieth day after the date of deposit of the fourth instrument of ratification, approval, acceptance or accession.
4. Thereafter the Convention shall enter into force for any other Party on the ninetieth day from the date of deposit of its instrument of ratification, acceptance, approval or accession.

Article 22
Withdrawal

Any Party may withdraw from the Convention by means of a notification in writing addressed to the Depositary. The withdrawal shall become effective on the one hundred eightieth day after the date of the receipt of the notification by the Depositary.

Article 23
Depositary

1. The Depositary of the Convention shall be the Government of Ukraine.
2. The Depositary shall notify all the other Parties of

(a) any signature of the Convention and its Protocols,

(b) the deposit of any instrument of ratification, acceptance, approval or accession,

(c) the date of entry into force of the Convention as well as its Protocols or amendments thereto, and the date of their entry into force for any other Party,

(d) any notifications of withdrawal from the Convention or its Protocols and the date on which such withdrawal becomes effective for a particular Party,

(e) the deposit of any declaration according to Article 1 paragraph 2.

Done at Kyiv, Ukraine on 22 May 2003 in one original in the English Language.

The original of the Convention shall be deposited with the Depositary, which shall distribute certified copies to all Parties.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed this Convention:

Annex II
Status of Participation of Carpathian Countries in Relevant Multilateral Agreements

TABLE 1

Status of participation of Carpathian countries in relevant multilateral agreements (as of April 1, 2007)

GLOBAL CONVENTIONS	CZECH REPUBLIC	HUNGARY	POLAND	ROMANIA	SERBIA	SLOVAKIA	UKRAINE
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)	X*	X	X	X	X	X	X
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	X	X	X	X	X	X	X
Convention on the Conservation of Migratory Species of Wild Animals (CMS)	X	X	X	X		X	X
Agreement on the Conservation of Populations of European Bats	X	X	X	X		X	X
Agreement on the Conservation of African-Eurasian Migratory Waterbirds		X		X		X	X
Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas			X				
Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area				X			X
Vienna Convention for the Protection of the Ozone Layer (Ozone Convention)	X	X	X	X	X	X	X
Montreal Protocol on Substances that Deplete the Ozone Layer	X	X	X	X	X	X	X
Basel Convention on the Transboundary Movements of Hazardous Wastes and their Disposal	X	X	X	X	X	X	X

* X = ratification, acceptance, approval, accession or succession

TABLE 1

Status of participation of Carpathian countries in relevant multilateral agreements (as of April 1, 2007), Continued

GLOBAL CONVENTIONS	CZECH REPUBLIC	HUNGARY	POLAND	ROMANIA	SERBIA	SLOVAKIA	UKRAINE
United Nations Framework Convention on Climate Change (UNFCCC)	X	X	X	X	X	X	X
Kyoto Protocol to the United Nations Framework Convention on Climate Change	X	X	X	X		X	X
Convention on Biological Diversity (CBD)	X	X	X	X	X	X	X
Cartagena Protocol on BioSafety (Cartegena Protocol)	X	X	X	X	X	X	X
United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (CCD)	X	X	X	X		X	X
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention)	X	X	X	X		X	X
Stockholm Convention on Persistent Organic Pollutants (POPs)	X			X			
Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO World Heritage Convention)	X	X	X	X	X	X	X

TABLE 1

Status of participation of Carpathian countries in relevant multilateral agreements (as of April 1, 2007), Continued

REGIONAL CONVENTIONS	CZECH REPUBLIC	HUNGARY	POLAND	ROMANIA	SERBIA	SLOVAKIA	UKRAINE
UNECE:							
Convention on Long-Range Transboundary Air Pollution (LRTAP)	X	X	X	X	X	X	X
Convention on Environmental Impact Assessment in a Transboundary Context (Espoo)	X	X	X	X		X	X
Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention)	X	X	X	X		X	X
Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters (Aarhus Convention)	X	X	X	X		X	X
Convention on the Transboundary Effects of Industrial Accidents (TEIA)	X	X	X	X		X	
Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (not yet in force)		X					
OTHER CONVENTIONS:							
Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	X	X	X	X		X	X
European Landscape Convention			X				

TABLE 1

Status of participation of Carpathian countries in relevant multilateral agreements (as of April 1, 2007), Continued

SUB–REGIONAL CONVENTIONS	CZECH REPUBLIC	HUNGARY	POLAND	ROMANIA	SERBIA	SLOVAKIA	UKRAINE
Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention)				X	X	X	X
Convention on Cooperation for the Protection and Sustainable use of the Danube River (Danube Convention)	X	X		X	X	X	X
Framework Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention)	X	X	X	X		X	X

List of Boxes

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The Regional Environmental Center for Central and Eastern Europe (REC) is a non-partisan, non-advocacy, not-for-profit international organisation with a mission to assist in solving environmental problems in Central and Eastern Europe (CEE). The center fulfils this mission by promoting cooperation among non-governmental organisations, governments, businesses and other environmental stakeholders, and by supporting the free exchange of information and public participation in environmental decision making.

The REC was established in 1990 by the United States, the European Commission and Hungary. Today, the REC is legally based on a charter signed by the governments of 28 countries and the European Commission, and on an international agreement with the government of Hungary. The REC has its head office in Szentendre, Hungary, and country offices and field offices in 17 beneficiary countries, which are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia and Turkey.

Recent donors are the European Commission and the governments of Austria, Belgium, Bosnia and Herzegovina, Bulgaria, the Czech Republic, Croatia, Denmark, Estonia, Finland, Germany, Hungary, Italy, Japan, Latvia, Lithuania, the Netherlands, Norway, Poland, Slovakia, Slovenia, Sweden, Switzerland, the United Kingdom, and the United States, as well as other inter-governmental and private institutions.

The European Academy (EURAC) is an innovative institute for research and scientific training, located in Bolzano, Italy (www.eurac.edu). Founded in 1992, it is divided into nine research institutes. The institute's international character is especially noticeable in the diverse origins of its staff: 120 researchers from 11 different European countries are currently working at EURAC.

Located in the central Alps, EURAC is in an ideal position to carry out applied research in mountainous regions, and is proud to host the outposted seat of the permanent secretariat of the Alpine Convention.

One of the research institutes of the EURAC is the Coordination Unit "Alpine Convention-IMA (International Mountain Agreements)" that is directly involved in the consulting activities that the European Academy gives to Italian institutions, such as the Italian Ministry for the Environment, Land and Sea, and to international institutions, such as, for example, UNEP, OECD, the European Commission and the Mountain Partnership.

In the framework of the Carpathian Convention EURAC has been really active since the period of the Italian Presidency of the Alpine Convention, (2001-2002) together with UNEP and some Countries from the Carpathian Area in the promotion of this Convention; for example EURAC organised and hosted the first negotiation meeting for the Carpathian Convention in June 2002, and the last one where the draft of the Convention was finalised in March 2003.

Handbook on the Carpathian Convention