THE CARPATHIAN CONVENTION
Practical Use




PLAIN LANGUAGE GUIDEBOOK
book 2

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PRACTICAL USE

(Plain Language Guidebook 2)

Kyiv — 2007

This publication was produced by

International Charity Organisation "Information Center "Green Dossier" (Kyiv),

LEAD International (London),

Center for Public Initiatives (Kosiv)

in the framework of the project "Carpathian Convention - Building Capacity For Implementation".

The funding was provided by the UK-based "Environment for Europe Fund" and supported by the UK Department of Environment, Food and Rural Affairs and the British Council, as a part of Small Environmental Project Scheme.

The context of this publication represents exclusively the opinion of its authors.

The second part of the guidebook analyses examples of how certain Convention Articles can be used in order to solve everyday problems. Mechanisms, which have already been used by local people in certain areas, can be instrumental in other regions. Undoubtedly, every example has to be adapted to local conditions by interested individuals. But a practical experience of neighbouring areas or countries can become a good foundation for development of action plans aimed at implementation of the Convention, which will work in everyday life rather than just on the paper.

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OKSANA STANKEVICH,
PUBLIC ORGANISATION "ECOSPHERE"

Article 3.
Integrated Approach to Land Resources Management

which emphasises the importance of integrated land resource management by developing and implementing appropriate tools, such as integrated management plans, relating to the areas of this Convention.

Example 1:

A typical example of irrational land use is the history of a spa resort "Sonyachne Zacarpattya" (The Sunny Transcarpatia) in viallage of Polyana near Svalyava. Its spring of mineral water "Polyana Kvasova" was famous as early as in the 18th century. The water was distributed all over Austro-Hungary and since the 1950s throughout the Soviet Republics. A spa resort was established near the mineral spring. It provided services for patients from all parts of the Soviet Union. Local scenic views contributed to the healing process.

For the past six years the village of Polyana has been turned into an urban-type building site. The community land - fields and meadows - have been covered by holiday homes and mini-hotels. In 2003, the village council made an illegal decision to deforest the hillside above the spa resort in order to clear space for a new building site. Consequently 1.5 hectares of forest was cleared and the site that had been specifically zoned as forest land, was excluded from the state forest fund by an unauthorized decision. Beside destroying the valuable forest, damage was done to the soil, that had been protected from erosion by the trees. Following rain and snow thawing, the landslide-prone hillside developed ditches and ravines, the loamy soil started to silt the resort's water purifying equipment, which is located at the hillside's foot.

Today, the "Sonyachne Zakarpattya" looks like a densely developed tourist destination, where it is hard to seclude oneself and to take rest enjoying the forest tranquillity. The worst is that the village practically lost

its land, which had been zoned for agricultural purposes, and today Polyana totally depends on tourist industry. What is going to happen to the village if the resort stops attracting tourists due to exhaustion of the mineral springs or the tourists industry goes into decline due to failing paying capacity of the population, as it happened in the 1990s?

Commentary:

The integrated approach to land resources management provides for the use of land from a sustainable point of view looking for the most beneficial ways. Thus all potential conflicts of interest associated with land use should be minimized (e.g. development of hazardous industries in resort areas or development of fertile land for construction) and all alternative ways of land use should be taken into account with focus on harmonisation of economic, social and ecological aspects.

This means that

– rezoning of fertile agricultural land, forest sites, meadows and grassland for other purposes, such as construction should be limited;

– the spatial strategy of territories should be based on the eco-systemic principle (allowing the least damage to the quality of soil, landscape and biological diversity, protected natural sites and territories) and the water-shed principle (planning is formulated within water- shed areas, i.e. areas where water from all springs, streams and rivers is drained into one mountainous river);

– traditional agriculture is preserved, i.e. sheep farming, crop rotation and leaving fallow land, making terraces for vineyard growing;

– local people are involved into decision-making about land use in the areas of their residence.

Example 2:

The integrated development based on the water-shed principle is being approbated in a mountain village of Nyzhnya Bystra in Khust district of Trascarpathia. All plans on the development of a forest farm, which borders on the village territory, are coordinated with the village development plans and the water management department. All stakeholders discuss proposals on development of tourist industry on the land that belongs to the village and the fforest farm, on development of trout farming, on the use of forest resources by local people. The local public participates actively in designing the development plans.

Article 5. Spatial Planning

Which emphasises
– the necessity of pursuing and implementing policies of spatial planning that will provide benefits to the local people and take into account specific ecological and socio-economic conditions;
– coordinating spatial planning in bordering areas with particular attention to:
- *transboundary transport, energy, telecommunications infrastructure and services,*
- *conservation and sustainable use of natural resources,*
- *coherent town and country planning in border areas,*
- *preventing the cross-border impact of pollution,*
- *integrated land use planning and environmental impact assessments.*

Example 1:

In January and March 2000, following heavy rain and snow thawing and subsequently destruction of dam walls in settling tanks of gold smelters in Baia Mare and Baia Borcia in Romania, the cyanide-tainted manufacturing water leaked into the rivers Laposh and Visheu, the tributaries of the Tisza. Thus Tisza, which flows further in Ukraine and Hungary, was contaminated with cyanides (substances used for the gold ore refining) and heavy metals. Transcarpahtia was hard hit by the accident, but the biggest damage was done to the fishing industry in Hungary. Today, these smelters are out of operation - companies AURUL (a joint venture between Australian-based Esmeralda and the state-owned Romanian REMIN) and REMIN have gone bankrupt and are unable to pay the damages to the affected countries).

The past in this story is regrettable, but the present is none the less annoying. Transcarpathia is the only place of gold mining in the Ukrainian Carpathians. One of the smelters is in Muzhieve, in Berehove district, close to the Hungarian border. So far gold has been refined here without the use of cyanides. However, at the moment Zakarpatpolymeals, a subsidiary of the state-owned "Ukrainian Ploymetals" , and Australian-based Eurogold Limited are conducting negotiations about the transfer of 100% of state-owned shares to a foreign company, which will invest capital into Muzhieve gold smelter. The new investors plan to introduce the

cyanide-based refining method, which will enable them to obtain twice the amount of gold (7 or 8 grams) from a tonne of the ore.

The Regional Department for Environment and Natural Resources was initially against the plan, but it suddenly changed its mind concerning the cyanide use. Opinion of the local public who oppose the use of hazardous substances is ignored in violation of the Aarhus Convention. Not a single public hearing on the matter has been organised. If the authorities do not back out of this dangerous idea, and the Australian investment comes into the region, the Romanian disaster can reduplicate itself in Ukraine.

Commentary:

The question is: what are spatial planning and integrated land use which take into account the transboundary aspect?

Project developers of the dams in Romania are the first ones to blame for the accident at the smelters because they did not take into account the possibility of the settling tanks getting overfilled due to weather conditions that are typical of the Carpathian region. The settling tanks were designed as a closed system - waste water with high cyanide and heavy metal content was recycled in order to avoid toxic emissions into the environment. In general, this principle is positive, both economically and environmentally. However the Carpathians is a region with frequent and heavy precipitation. This was not taken into account. Closed-type hazardous production lines should not operate in such areas.

This accident also happened because there was *no spatial planning in natural protected areas through developing transboundary and/or regional spatial policies and programmes enhancing and supporting cooperation between relevant regional and local institutions (paragraph 2, Article .5 of the Carpathian Convention)*.

The situation with Muzhieve smelter violates both the principle of special planning for development of transboundary territories and the principle of integrated planning for land use. Berehove district enjoys very warm weather. Its natural climatic and landscape conditions are ideal for growing vegetables, fruit, vineyards. Therefore this aspect should be taken into account when considering development of a mining industry that contemplates using hazardous chemicals for ore refining. In particular, from the point of view of rational land use and economic feasibility for the region: how much profit the

region (not some individual pockets) will get from the gold and how much it will get from growing vegetables, fruit, grapes and production of wine; how many people are employed by the goldmine and how many are employed in the agricultural sector. It is also important to pay attention to attitudes of local people who live near the potentially hazardous site.

In addition, major factors that contribute to environmental changes in mining areas in the Carpathian region of Ukraine are:

- replacement of the natural landscape by the technologically-designed one;
- formation of ore heaps;
- deterioration of natural protection of groundwater from contamination due to development of surface protective layers of the rock;
- more agressive landslides, erosion, etc.

Areas where the major part of population is employed in the agricultural sector (e.g. Berehove district), or in tourism industry (e.g. Verkhovyna district of Ivano-Frankivsk region, Turkiv and Sokoliv districts of Lviv regions, Putyl district of Bukovyna) cannot be considered as such that holds much promise for the mining industry without an appropriate scientific substantiation, an ecological expert assessment and public discussion.

Example 2:

Consequences of floods in Transcarpathia in 1999 and 2001 make it clear that there is no special planning policy in place, which would be aimed at conservation and sustainable development and take into account the specific ecological, socio- economic conditions in the Carpathians and their mountain ecosystems, and provide benefits to the local people (p.1 of Article 5 of the CC).

Similar disasters have been taking place for the past six years on the northern side of the Carpathians in Ivano-Frankivsk region as well. Floods destroy houses, inundate villages and towns, cause damage to local people and the economy of the country.

Commentary

Flooding is a natural seasonal phenomenon, which people have observed from time immemorial and even used it to the benefit of their economy (e.g. overflow of the Nile in Ancient Egypt).

Flooding - rising of water in rivers - is linked to heavy rain in autumn and snow thawing in spring. At the same time in the middle of the sum-

mer water levels in rivers reach their lowest point. This is a natural routine for any river. However, the greatest fluctuation is observed in mountain rivers - in the mean water season the water level can be as low as a few inches, and in the flooding season water levels rise and the river overflows. Floods cause serious damage to local people and their assets especially if they live in river valleys. The character of the river and the boundaries of its watershed should be considered when issuing planning permissions for housing, Unfortunately, this principle is still overlooked in town and village planning in the Ukrainian Carpathians.

Article 7. Sustainable Forest Management

which highlights
- the importance to maintain management of land traditionally cultivated in a sustainable manner;
- Integration of environmental concerns into agricultural policies and land management plans;
- the importance to promote and support documents and programmes that are compatible with internationally agreed principles of sustainable forest management;
- the necessity to apply sustainable mountain forest management practices in the Carpathians;
- The need to restrict the use of designated protected areas and promote environmentally-sound agricultural and forestry measures that will assure appropriate retention of precipitation in the mountains in order to better prevent flooding and increase safety of life and assets.

Example 1:

A mountain Transcarpathian village of Novoselytsya is situated in the forest on the border with Slovakia. The Ukraine-Slovakian border, and Novoselytsya in particular, is lined with beech forests, which have been undergoing major deforestation in recent years. The trees are considered to have matured and achieved its marketing age of 90 years. Thus, according to documentation, the forests can be designated for logging.

Therefore, trees are being felled all around Novoselytsya, especially in summer and autumn. In the process, tractors dig up soil, the river gets

silted up and brings muddy water into the village wells. This water is unfit for watering the cattle, bathing children and laundry. In spring, when streams of thawing and rain water rush through Novoselytsya, villagers stay awake at night trying to catch or break up entanglements of branches, which swell with every meter in the water and block the mountain river, which causes flooding. If the villagers go to sleep, over a few hours their sheds, stables, cold rooms and yards will be covered by water. In April and May the villagers have to sell their cattle because they cannot feed them. Deforestation brigades turn meadows into landings for logged trees. Thus after the logging season the meadows turn into a muddy mishmash of soil and branches. According to the law, each timber production company must clean up the area and plant new grass.

Commentary

This story is typical of nearly all villages of the Carpathian region. There are many problems *with managing mountain forests in a sustainable way while 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 (p. 4, Article 7) and promoting practice of environmentally sound agricultural and forestry measures that assure appropriate retention of precipitation in the mountains with a view to better prevent flooding and increase safety of life and assets (p. 6, Article 7)*.

Sustainable forest management should result in retaining the number of forests and maintaining their quality. In Ukraine, and in the Carpathians in particular, the land area covered by forest is not diminishing. On the contrary, the strategy adopted by the government looks for its increase. The quality of Ukrainian forests is some of the best in the Carpathians. However, their quality in future will depend whether the forest management in the country is sustainable, i.e. whether the economic, ecological and social aspects will be harmonised.

What are the specific problems linked to sustainable forest management in Novoselytsya?

- Firstly, low environmental awareness of employees who work for tree logging companies and absence of practical skills of environmentally-focused forest management.

Ukrainian foresters still do not operate such terms as "naturally close forestry", and "environmentally-oriented forestry". Nor did they develop the criteria for this type of forestry, nor is it reflected in any type of inter-

nal documents and guidelines. The new Forestry Code of Ukraine mentions sustainable management. However, the practice is not defined and the standards are not set. That is why Ukrainian foresters do not adhere to sustainable standards, and the country's forestry today hasn't really advanced from what it was two decades ago.

- Secondly, environmental requirements for tree logging technology are not met and even violated.

Ukraine has a relatively well-developed forestry legislation, which regulates the impact of forestry practices on the environment. However, in most cases the legislation is not enforced. In Novoselytsya trees were felled near the mountain stream, so the water-protecting area was ignored. The wood felling area was not cleaned up from timber debris properly, which blocked the estuary of the mountain river and caused a flood; the technological requirements were ignored, there was insufficient number of bridges built over the river, heavy machinery was used, which is dangerous in mountain conditions. Another detail - according to the rules of logging (and it is reflected in the Ukrainian legislation), beech tree felling should only take place in winter, when the snow covers seed trees and the forest bedding. Preservation of saplings is a precondition for natural reforestation and prevention of soil erosion. Unfortunately, trees are mostly felled in the Ukrainian Carpathians in warmer seasons, which has a negative impact on the environment.

The reason for violations is that forestry companies are not interested in meeting the legislative requirements. It costs a lot money, and because logging companies are funded from the budget only partially (50% of remuneration), the only thing they are interested in is timber and the amount of money they can get for it.

- Thirdly, the interests of local people are ignored.

The Ukrainian legislation does not provide for cases of compensation fordamages to the local people, which were caused by tree felling activities. Compensation can only be by awarded by the court.. Prior to this the state administration must establish a special commission that will determine the scale of damage. A complicated procedure and vested interest among members of such commissions make it nearly impossible for individuals to sue a company for damages. Ignoring people's interests is a practice that has been well established since the Soviet times. Forestry workers rarely pay attention to the damage they cause to local people because they have never been called to account for this.

Example 2:

Turyanska valley - this is an unofficial name of a part of Perechin district in Transcarpathia, situated in the valley of the river Tur'ya. The people who live in this area are called "frog-eaters" because they like to treat themselves to this delicacy, which they catch in the woods. The tradition has been there since times immemorial, however the frog business has become a big problem in recent times.

You can't find a restaurant in Turyanska valley these days, which would not serve the local delicacy - the forest frogs. At the same time the frog dishes are served secretly because this "commodity" is not registered by the tax inspection, and therefore there are no relevant invoice forms. Some of the most regular customers in these restaurants are local law enforcement officials - policemen, judges, prosecutors, who specially come to the area to treat themselves to frog legs. Restaurant owners pay $5 per kilo of frog legs to their suppliers. Among those are impoverished villagers, sometimes forest rangers. The biggest number of frogs is usually caught during the spawning period when thousands of frogs gather in a small area. The frogs are ruthlessly beaten by sticks so that they or, to be exact.their back legs could arrive at the restaurants the very same day.

Commentary:

At first, it might seem that this story has nothing to do with sustainable forest management. However, one of the major principles of sustainable forestry practices is protection of biodiversity and its associated values, water resources, soils as well as unique and fragile ecosystems and landscapes, and by so doing maintaining the ecological functions and integrity of forest ecosystems. This means that all forest dwellers - a small bug, a bird of prey, a poisonous mushroom or a wild orchid - are protected from poaching. Moreover, their habitats within forest ecosystems must also be protected.

The situation described above is absolutely typical. As it has already been pointed out, there are no valid criteria of sustainable forest management in the Ukrainian legislation. Therefore, one could only refer to the standards established by the mechanism of forest certification, provided a particular forest management company has obtained a forest certificate. The legislation in Ukraine only regulates poaching of game animals and

fish during the spawning season. The law does not mention poaching of frogs. So it looks like it's allowed if it is not banned. This loophole in the legislation is used by everyone who makes money on frogs, undermining their population in Turyanska valley.

Example 3:

An integral element of a mountain landscape in the Ukrainian Carpathians is a heap of sawdust above a river or alongside a wood, which smoulders and smokes or rots in the rain or under the snow. This is the way tree farms and timber producers, both legal and illegal, manage their industrial waste.

After work has officially been completed in a timber felling area, one can often fined there canisters with fuel remains, soiled gloves, rubber boots and other rubbish. Ignoring safety regulation while working with fuels during tree felling is a common practice. Fuel contaminates the soil and the rain washes it down to streams and rivers.

Commentary:

According to the international standards, forest management and tree felling activities should reduce waste and enhance recycling. By no means, should they harm other forest resources, water and fish. In this case, the Ukrainian legislation does provide for the relevant safety regulation, but, unfortunately, forestry workers do not always abide by the law.

Positive Trends

Unfortunately, we could not find positive examples of sustainable forest management. Nevertheless, there have been made a few steps in the right direction:

- Forest Certification

Transcarpathia is the only region in the Ukrainian Carpathians so far that has an experience in FSC scheme forest certification. In October 2005, a Polish-based independent audit company SGS certified all eighteen state forest management of Transcarpathia. Admittedly, it was a group certificate, and not all compamies really deserve it, and the ones that do deserve it ,have got it in advance, provided they correct the shortcomings revealed by the auditors. However, forest certification stimulates forest management companies to improve their quality of work and come clos-

er to the international standards. Forest certification is a voluntary procedure and there is a charge for it. Today, forest management companoies of Ivano-Frankivsk region are getting ready to undergo the certification.

Historically. Forest certification was initiated as a mechanism to combat illegal tree felling and supply of illegal timber to world markets. These days the certification sets high standards for forest management, among its certification criteria are: interaction with local communities and indigenous people's rights, social security of the industry workers, development of forest infrastructure and safety measures in the tree felling technology, environmental impact, new approaches in marketing of forest products. Forest Certification offers the following benefits to forest management companies and timber producers:

Economic benefits:

- Access to markets of certified timber products, where great attention is paid to environmental and social conditions of timber production (mostly the markets of Western Europe and North America).

- Higher competitiveness and long-term partnership with buyers of certified products;

Credibility of a forest management company and a positive environmental image which leads to support from environmental NGOs, big companies in the industry.

Social Benefits

- Raising the standards of timber production to the European level.

Ecological Benefits

- Improving practices of forest management;

- Access to innovative knowledge and skills for sustainable forestry.

As we can see Forest Certification takes into account all three aspects of sustainable forest management.

- High Conservation Value Forests

According to the ninth principle of FSC Forest Certification, management activities in high conservation value forests should maintain or enhance the attributes, which define such forests. Decisions regarding high conservation value forests should always be considered in the context of a precautionary approach.

In fact, this principle points at *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 (p. 5 Article 7, CC).*

However, beside forests and natural protected sites in the Carpathians, where forestry activities are regulated by the environmental legislation, we should not forget high social value forests, and forests that have historical, cultural, religious and traditional value. Among social values one could name food, construction and craft materials, fuel and incomes that local communities earn by using forest resources. Cultural, religious and traditional value forests are important for preservation of traditional culture of local communities. High social and cultural conservation value forests are a new category for the Ukrainian legislation. Specially established working groups are currently developing methodology for identification of such forests and drafting recommendation in regard to their management.

- Implementation of the Dauer Wald principle in mountain forestry

Dauer wald is a German term, which means "durable forest". This method is not new, and it is studied in all forestry academies in the country. It goes back to the 19th century, when German foresters in the Bavarian Alps initiated a system of selective logging to ensure continuous growth of forest on mountain slopes. The principle is based on cutting trees of a certain species, certain age and certain market parameters in a certain area. At the same time a forester must take into account seed trees growth, lighting and other factors, such as avalanche routes, possible land slides or rolling stones.

This forest management system makes it possible to model natural reforestation by ensuring the forest consists of different types of trees that are at different stages of their development.

Entire logging leads to formation of the same age forest. Besides, it is only in recent years, that forest farms have started planting different species of trees after entire loggings. There are a lot of fir tree monocultures in the Carpathians, which are beginning to whither. It doesn't happen in natural conditions. Natural forests are inhabited with trees of different age (from 1 to 500 years) and different species, one or two of which

dominate. Such forest is more natural disaster resistant and is less susceptible to diseases and insect infestation.

Today this method is being piloted in experimental areas of two state forest management companies in Rakhiv and Khust districts in Transcarpathia. According to the results of the experiment, changes in forest management documents will be made. The experience in sustainable forest management is being passed to other regions in the Ukrainian Carpathians.

LUBOMYR DERZHYPILSKY,
THE NATIONAL NATURAL PAR K "HUZULSHCHYNA"

Article 4 Conservation and Sustainable Use of Biological and Landscape Diversity

Which speaks of
- Conservation, sustainable use and restoration of biological and landscape diversity throughout the Carpathians,
- Protection and sustainable use of natural and semi-natural habitats, and species of flora and fauna being characteristic to the Carpathians, in particular, protection of endangered species, endemic species and large carnivores;
- Development of compatible monitoring systems, coordinated inventories and scientific research and development of an ecological network in the Carpathians, as a constituent part of the Pan-European Ecological Network.

Biological diversity has always been, is and will always be an existential resource for people, especially in rural areas. It is a source of both material and spiritual culture - agriculture, arts, crafts, traditions, etc. We look at the ethno-cultural component as an integral part of the environment of Huzulshchyna, thus conservation of biological and landscape

diversity is not an isolated purpose, but a precondition for harmonious and sustainable development of the region.

If we analyse the dynamics of biodiversity loss historically, we will see that the most significant negative processes took place in the 20th century, especially after 1950s, and those processes are still in place today. High value beech and fir tree primeval forests, rare formations of oaks, beech trees, plant and animal species (especially game ones) are under threat of extinction. The age structure of forests is unbalanced - only 6 percent of trees are mature, while this number should reach 25 percent. Another challenge for conservation activities is the fact that a large number of habitats of rare flora and fauna species are situated in private lands. Natural heritage sites are in inadequate condition because their management evade their responsibilities. Environmental awareness is amazingly low, the environmental legislation being neglected.

Example 1:

One of the most effective ways of protecting biodiversity is formation of natural reserves, national and regional parks, natural heritage sites, etc. In order to conserve, restore and use in a sustainable way genetic resources of flora and fauna, unique natural complexes, historic and cultural environment of the Pokutsko-Bukovynsky Carpathians, and with a view to promote tourism as a vital industry, the National natural park "Huzulshchyna" with a land area of over 32000 hectares was established in 2002. The park is a component of the Carpathian ecological network and the Pan-European ecological network.

At present the "Huzulshchina" is running a project "Implementing environmental principles in agriculture for the regional sustainable development", which is supported by the British Councils in Ukraine. So far there have been formed collective and reproductive slots, arboretums, three demonstrative fields and five manuals have been published.

Example 2:

Various species of alien decorative, edible and medicinal plants were introduced in the Carpathians in different times. They spread from agricultural land, parks and orchards to forests and wild meadows, and eventually became an integral part of the environment. Some of them turned out to be very invasive and have started replacing the endemic species.

Example 3:

According to the programme of the Ukrainian Academy of Agricultural Sciences and with the support of the Heifer Project International and the Polish-American-Ukrainian Initiative, measures are being taken today to conserve and restore the Huzul breed of horses, the Brown Carpathian breed of cattle, the Ukrainian Carpathian breed of mountain sheep, the Carpathian breed of bees, species of fruit trees, etc. Reproduction farms and a co-op have been established and two manuals have been published.

Example 4:

A charity "Interecocenttre" assisted in completing the programme "Wetlands of Kosivshchyna" in Kosiv district of Ivano-Frankivsk region. The participants of the programme conducted inventory and research of the wetlands and substantiated measures that should be taken in order to conserve and use them as habitats of animal and plant species. Since 2004 there has been conducted monitoring of Kosiv forests, which is co-ordinated with the European monitoring system. Fifteen monitoring and research stations have been established.

Commentary:

The problem of conservation and restoration of endangered species and biodiversity in general is very serious, which, unfortunately, has not been understood fully by the society. Measures aimed at re-naturalisation of species, biological communities, disturbed territories do not have a significant enough place in environmental activities. This problem has a few aspects: ecological, economic, legal, ethical and informational. The major directions, strategies and measures aimed at conservation of biodiversity in Kosiv region are as follows:

- A detailed inventory of flora, fauna, plant communities, natural habitats, landscapes. Taking the inventory is a long-term process, which requires substantial funds and participation of experts. Following establishment of the National natural park "Huzulshchyna" the inventory activities are being carried out regularly. The lack of funding, however, makes it impossible to complete the inventory over a short period of time.

According to preliminary data, the flora of natural landscapes of Kosiv region consists of 687 species of vascular (highest) plants, 163 mossy plants, 204 lichens and macro-fungi, 1054 species altogether. 47 of those are registered in the Red Book of Ukraine and 7 in the Regional Red Register. The fauna consists of approximately 240 spinal species and 586 insect species, 64 of those are rare and endangered. Over 180 taxons are included into international registers, conventions and agreements that are relevant for Ukraine.

-Development of maps of flora, fauna, landscapes, endangered species and fragile environments.

- Development and implementation of environmental activities:

- protection of habitats of endangered species, in particular primeval forests, old age forests, rare landscapes, biological communities. Primeval forests have an exceptional ecological, scientific and educational significance. They constitute a natural standard of wildlife, and provide favourable environment for conservation of populations of rare and endangered plant and animal species, can be used as convenient and long-term models for research.

- establishment of new reserves and natural heritage sites and proper design and equipping of the existing ones (signposting, parking areas, rubbish bins, etc), measures for their protection;

- imposing strict limitations on private owners whose land is inhabited by endangered species;

- declaring and maintaining a moratorium on hunting of the deer, goat, otter, bear and the wood grouse until their populations are restored and reach optimal numbers in the ecosystems;

- in order to improve feeding conditions for the animals, it is necessary to create bio-valleys and introduce fruit trees, berries and vegetables in forests, bio-valleys, along forest roads, power and gas lines;

- restrictions on removal of the biomass (mushrooms, berries, medicinal plants, timber) from natural landscapes, especially natural reserve areas;

- creation if feeders and their systematic filling;

- improving conditions for spawning of fish in rivers and streams;

- creating artificial nesting sites in order to attract birds and bats;

- giving wetlands a protected status;

- Development and implementation of the programme of re-naturalisation of rare plant and animal species, environments and intruded territories (Example 1);

- assessment of the state of endangered species populations;
- assessment of the state of rare environments;
- development of optimal methods of re-naturalisation of disturbed plant communities, landscapes, territories;
- creation of a reproductive material bank for rare species;
-creation of selective and reproductive areas, incubators, enclosures;
- reconstruction of disturbed environments, restoration of rare plant and animal species, in particular those that are extinct from this area or are on the verge of extinction;

- scientific substantiation of human impact on the environment caused by recreational and economic activities. Regulation of collection of medicinal plants, berries and mushrooms. Regulation of the of plant resources use. In order to reduce anthropogenic pressure on natural landscapes, it is very important to develop and implement a programme for cultivation of medicinal plants, berries, mushrooms, Christmas trees, etc. This will decrease the loss of biomass from natural ecosystems, including endangered species, and will enhance conservation and restoration of biodiversity. At the same time it will make it possible to obtain sufficient amounts of environmentally-friendly products that can be used by local people and the recreation industry. It will increase productivity and profitability of agriculture, especially in mountain areas, decrease unemployment and improve the standards of living. Successful implementation of the programmes depends on certain incentives: tax cuts, availability of low interest loans, infrastructure of purveying centres, service industry, attracting investment, etc.

- Development and implementation of measures that will ban import and distribution of genetically modified and alien invasive plants and animals (example 2). Introduced fruit, vegetables and decorative plants amount to 213 species. A lot of them replace endemic species, however they provide good food for domestic animals and wildlife. They constitute an important component of landscapes and play their role in formation of natural communities and zoo-complexes.

- Promotion of endemic species, breeds. Providing incentives for their cultivation and breeding (Example 3).

- Monitoring of the state of biodiversity, wetlands, nature complexes (example 4).

- establishing and maintaining the Carpathian network of protected areas as a constituent part of the Pan-European Ecological Network. It is necessary to enhance international co-operation for the protection of biodiversity and coordinate actions of all stakeholders in the Carpathian region.

MYKOLA BLYZNIUK,
"THE CENTRE FOR PUBLIC INITIATIVES"

Article 6.
Sustainable and Integrated Water/River Basin Management

which highlights
" the necessity to integrate sustainable use of water resources with land-use planning;
" sustainable management of surface and groundwater resources;
" balanced and equitable water use;
" conserving natural watercourses, springs, lakes, groundwater resources and wetland ecosystems;
" development of a system of measures, activities and early warning for transboundary impacts on the water regime of flooding and accidental water pollution;

Kosiv district is rich in water resources due to an extensive river network. The number of lakes and wetlands is quite small, artificial ponds can only be found in certain locations. All water resources in the district belong to the river Prut basin. In mountain areas and below, the rivers form numerous waterfalls and rifts, which perform an important recreational function. There are only six lakes in Kosiv district. Nevertheless, each of them is unique, the most well-known being Lake

Lebedyne and Lake Banske. Although the non-mountain areas of the district provide favourable conditions for developing ponds, they are not common. The biggest pond farm was built in the valley of r. Voylitsya - seven ponds covering the land area of 30 hectares. Ponds have been formed on the rivers Tsukaniv, Chernyativ, nasarat as well as in r Rozhnov, Verbivka, Kobaky and near Kosiv.

Rivers and groundwater provide the most water resources for the district. The district's territory is crossed by the tributaries of the Prut, Cheremosh (80 km), Rybnytsya (54 km), Pistynska (56 km), Liuchka (24 km) and 100 small rivers. Using water resources for industrial purposes, contamination of water courses and groundwater by industrial and agricultural waste harm and exhaust water resources.

Example 1:

Drinking water in Kosiv is of poor quality, which is epidemically threatening. The town's water main and public wells constitute a source of potential; infections. The water supply system is in a horrific state. Moreover, due to interruptions in electricity supply, the water is supplied to households only for 2 hours per day, 3 days a week (and sometimes there is no supply at all). Therefore, local people have to use public wells. Most of 45 public wells in the district do not meet sanitary requirements. Out of 60 samples examined, 46 were inadequate. Despite regulations, there have been no disinfections carried out in recent years.

Participants of the on-going project "Innovative approach to the water supply system in Kosiv district" are concentrating their efforts on solving the problem of unsound water resources management. As an example, they have decided to form model mini-coops that will provide drinking water supply for villages as well as develop modernised, individualised water supply systems for residential areas, industrial sites and institutions in Kosiv district.

Commentary:

Short-term implications:

- According to the Environmental action plan, development of a model 24-hour water supply system for an appointed populated area,

involving all stakeholders in the community and based on co-op self-governance, could prove to be useful for other areas.

- Implementing the model in one of the populated areas in Kosiv district.
- 24-hour supply of drinking water for all households, companies and institutions in the tourist region.
- Implementation of the Carpathian Convention in the region, enhancing transboundary cooperation (between Ukraine and Romania).

Long-term implications

- Development and piloting of models (mini-coop, modernisation of the water mains, individualised water supply) for communities in Kosiv, villages of Kuty and Yabluniv, and for organisations and institutions in the district.
- Drawing attention of the local authorities to the new water supply system.

Example 2:

At the end of the previous academic year, pupils of the school in Nyzhnye Selyshche witnessed opening of the first public bio-toilet in Ukraine. The toilet has capacity for 500 hundred people, i.e. all pupils and teachers of the local school. It is classified as "bio" because faeces turn into compost rather than contaminate groundwater, as it happens in most cases.

According to Alexander Lipchej, the school principle, "the school is not connected to water treatment equipment, thus waste used to end up in the river. The bio-toilet is one of effective ways of both using water efficiently and solving the problem of contamination .In addition, this project has an educational function. It helps to educate children since early age to think of the environment and hygiene".

This social project in Nyzhnye Selyshche was supported by the Development Fund of Basel, Switzerland. It took four years to develop the idea, find investors, and design the toilets. Construction lasted about 18 months. The Swiss sponsor gave 300 000 UAH, the local authorities gave 45 000 UAH. Later the project entered the competition of municipal initiatives and received further 50 000 UAH towards maintenance

costs - the purchase of a tractor, tanks, and everything needed in order to bring compost to the fields.

Commentary:

It is too early to speak about the results yet. However, the project organisers hope that all purposes will be achieved: saving water, safe canalisation (most households still have just earth closets, which harms the environment and is officially banned), promotion of compost toilets (people can build such toilets in their homes), educating children to look at toilets as hygienically clean "zones" and to protect the environment.

The experience gained from the Nyzhnye Selyshche project was shared in the framework of the project "Providing preconditions for practical implementation of the Carpathian Convention in Ukraine", which is being run in Ivano-Frankivsk region.

The first public bio-toilet in Ukraine was built on the initiative of the Transcarpathian Association for Local Development, which takes part in a series of meetings "The Carpathian Convention - providing conditions for implementation". During those meetings all interested people could obtain information from the first hands, and were indeed convinced that the bio-toilet is hygienic, environmentally-friendly and economically viable. It is not by accident that the project is carried out in a school because the new generation is open to progressive and environmentally-friendly ideas. Participants of the meeting expressed their wish to carry out a similar project in Kosiv district.

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Article 8. Sustainable transport and infrastructure

Which emphasises
- Policies of sustainable transport and infrastructure planning and development, which take into account the specificities of the mountain environment;
- The necessity to protect sensitive areas, in particular biodiversity-rich areas, migration routes or areas on international importance;
- Protection of biodiversity and landscapes and of areas of particular importance for tourism.

Example 1:

Most plans for transport development in the Carpathian region are connected with the expansion of international transport corridors, particularly the one that will run from Italy via Slovenia, Hungary and Slovakia to Ukraine along the route Trieste-Ljubljana-Zagreb-Budapest-Chop-Lviv with a branch to Slovakia, Bratislava-Chop-Lviv. The national network of international transport corridors as a component of the trans-European system makes Ukraine more accessible and attractive from the international tourism point of view. Joining the all-European network of tourist routes will provide conditions for comprehensive development of the tourist infrastructure that will promote increase of volumes of tourist services and goods, additional earnings for all levels of budgets, and positive shifts in the people's employment structure.

The most topical projects for now also include:

- restoration and upgrading of Chop-Lviv branch railway infrastructure;
- construction of a railroad tunnel in Beskyd-Skotarske district;
- accomplishment of a package of technical measures to improve traffic conditions and safety on Kosyno-Chop-Stryi-Lviv and Uzhgorod-Mukachevo motor roads;

- repair of Kyiv-Chop motor road (towards Budapest via Lviv-Mukacheve-Uzhgorod) engaging loan funds from the European Bank for Reconstruction and Development;

- development of aviation transport by reconstructing and using capacity of a former military airdrome in Mukacheve;

- restoration and development of a narrow-gage railroad for environmental and tourist activities (the Carpathian tramway).

Besides, there are intentions to:

- introduce regular navigation on Tysa river having a navigating season of about 280 days per year, with building a river port with up to 1 m t throughput in Chop town region;

- create, by 2010, hard surface approaches to every settlement, and implement a package of measures to introduce permanent bus routes to those settlements;

- develop, by 2010, feasibility studies for construction of bypasses around cities, according to the Law of Ukraine on the General Scheme of Planning of the Trritory of Ukraine, first of all on the routes of international and national transport corridors.

Example 2:

Renewal of narrow-gauge railroads (particularly with 750 mm tracks) is a very promising project in the sustainable transport area. Currently, there are three active narrow-gauge railroads in the Carpathian region: Beskydy, Vygoda, and Osmoloda-Dariv, part of Broshnivska system.

History of narrow-gauge railroads began in the Carpathians as far back as under the Austro-Hungarian empire when Austrian entrepreneur Baron Leopold Popper von Podgari moved his firm's head office from Hungary to Halychyna in 1873. Popper's enterprise specialized in logging, processing and sale of wood. The baron installed his first sawmill in Vygoda village.

Narrow-gauge railroads were first built to transport cargos. After the World War I, they began to be used as passenger transport, and first stations were built. The war made owners of the Carpathian forests go back to Austria. Popper's mini-empire in Vygoda passed to Silvinia, a British joint-stock company. The firm not only continued to build sawmills and narrow-gauge railroads but also opened them for European tourists.

A third narrow-gauge railroad started working in Mizunka river valley

in 1920. The 24 km railroad led to Sobol (now Mindunok) station, passed five large bridges, and was advertised in newspapers as quite picturesque. By 1939, the Vygoda branch became 65 km long and acquired a recreation infrastructure. Everywhere in the Carpathians, resorted were crowding - health resorts and boarding houses that offered health recovery with mineral springs and curative turf mud. Capitals were invested in the resorts first of all by timber merchants and narrow-gauge railroad owners. Carpathians villages of Mizun, near Vygoda, and Korchyn, near Skole, were popular places of recreation for government officials, businessmen, creative intellectuals and students from all over Halychyna and Poland during the period between the two world wars. The people came to the resort places, of course, by trains on narrow-gauge tracks.

Among small railways in Europe, the first-ever license for tourist routes was granted to Gredliv Carpathian narrow-gauge railroad: a 41 km Skole-Demnya-Korostiv line. Three trains were equipped for tourists. They could view local scenery from special coach windows and take a walk in the mountains when the train had a stop.

In the 1980s, service stations of Vygoda forest railway were situated in Mindunok Solotvynsky, Sloboda, and Mindunok Beskydsky. Daily passenger traffic existed from Vygoda to Novy Mizun health resorts. In spring 1999, a flood stopped traffic of the "tramways"; the element destroyed more than a half of existing tracks. The nature's act was completed by people: tens of kilometers of rails were dismantled and scrapped. Only Mizun branch line was reanimated, and it is the only one now fully restored.

This 60 km long narrow-gauge railroad from Vygoda village to Senechev has been in operation since 2000 as a production line: cargo and work trains run on it regularly. In 2003, the Carpathian Tramway program was organized. The first tourist mini-train ran along the route in July 2004. At present, the Carpathian Tramway is functioning and gaining strength as one of the most promising tourist attractions.

Commentary:

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 (article 8(1) CC).

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 (article 8(2) CC).

In environmentally sensitive areas the Parties shall co-operate towards developing models of environmentally friendly transportation (article 8(3) CC).

Transport and infrastructure development is one of the most essential factors affecting life in the Carpathian region. On the one hand, positive sides include the fact that construction of new transport routes and reconstruction of old ones will expand opportunities for attraction of foreign investments to develop industrial enterprises, resort and tourist facilities, hunting bases, to exploit raw material resources, to extract mineral resources, etc. On the other hand, transport has considerable impacts on the Carpathian environment, in particular: atmosphere pollution with exhaust, noise pollution on main roads, creation of hindrances for wild animal migrations, abnormal dumps of oil products or chemical industry raw materials into soil or their evaporation into atmosphere occurring during their transportation. Besides, building of motorways often poses problems due to alienation of land, which is especially painful for those oblasts in the Carpathian region that have insufficient land.

Hence, it is very important to ensure such development of transport and infrastructure that would consider local people's interests, take mountain environment specificity into account, and engage most environmentally safe transportation models.

One of the transport planning policy examples consists of the State Program for development of public motor roads for 2005-2010, approved by the Cabinet of Ministers of Ukraine in August 2005 (Resolution of the Cabinet of Ministers of Ukraine # 170 of 3 August 2005).

The Program's activities and priorities include, inter alia:

- building motor roads to bypass large settlements;

- building efficient water drainage and treatment plants and structures, enforcing slants to prevent development of erosion;

- equipping road maintenance units with machines and mechanisms to collect and utilize waste and residues with further grinding;

- preventing groundless fragmentation of territories by means of determining, during geological survey, an optimal option of motor roads arrangement in order to ensure formation and preservation of territories and ecological network objects;

- arranging passages for animal migration (special tubes inside road beds, viaducts and overpasses over natural landscapes, transport tunnels under them, etc), protecting fences, noise control walls on motorways and, if necessary, on other principal motor roads;

- increasing, during the building, construction and overhauling of road facilities, the share of expenses on creation and maintenance of green plantations within motor road allocation strips and of cover crops along motor roads with mandatory replacement with more gas-resistant and dust-resistant species of wood (linden, ash, maple, sycamore, etc.).

Amount of financing for environmental protection activities must be at least 5% of the estimated cost of the works.

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Article 9. Sustainable Tourism

which highlights
- development of sustainable tourism in the Carpathians, which provides benefits to the local people;
- promotion of transboundary cooperation in order to facilitate sustainable tourism development.

Example:

In 2003, the Information Centre "Green Dossier" organised a small musical festival in the village of Sheshory in the framework of Ecotopia, Europe's biggest international environmental camp, in order to demonstrate Ukrainian traditions to its participants from 32 countries. The attempt turned out to be successful, and next year the event was repeated as the International Festival of Ethnic Music and Land-art "Sheshory". This year saw the fourth "Sheshory" festival. At this stage we can speak of its lessons, achievements, and its significance for the local community.

The festival made it clear that ethnic music is still alive in the Ukrainian Carpathians and local people even still make ancient musical instruments. Traditional crafts - weaving, embroidering, wood carving, blacksmithing have also been preserved and local people do not want to lose them.

However, as making a living from traditional crafts is very difficult at this time of social and economic changes, a lot of people have to perform illegal actions, i.e. unauthorised tree logging. It gives a good income but also causes floods and landslides in Carpathian villages. Most people understand how harmful and dangerous their business is, but they do not see any alternatives.

The festival, first of all, showed to local people what economic benefits development of tourism has to offer to them. Environmentally responsible tourism is a new way of improving social and economic standards of living in the region. Over the past four years, more and more people have started accommodating tourists and are trying to create better

conditions for them each year. The number of tourists that come to the village, both during the festival and at other times, has multiplied enormously. As for the festival, ten times as many people go to it now. This means better incomes for people and revenue for the local authorities. Tourist industry in Sheshory is not limited to providing accommodation. Tourists are interested in huzul cuisine, which translates into jobs for servicing ten thousand festival guests. Moreover, tourists like to buy traditional huzul craft wares, so local craftspeople are busy making souvenirs since spring. Thus the festival supports and promotes traditions as well as facilitates economic development.

The festival attracted attention to a number of issues, which had been previously neglected. Firstly, it is waste management - the village did not have its refuse collection system. Now this problem is being solved. As a part of preparation for Sheshory-2006 a few truckloads of waste were taken out of the village. Some of the waste was there since 1950s. Rubbish bins have been placed in the village streets. The local authorities and a community-owned company "Orion" are looking at prospects of waste sorting. Plastic, which mostly contaminates the river banks, should be collected separately as there are certain companies that are interested in it for recycling purposes. Thanks to the festival, local people got a new road, the school and the Community Hall have been refurbished and renovated.

The results of Sheshory Festival:

- local people are more interested in developing environmentally-friendly tourism based on conservation of local traditions and culture.
- Interests of the local community are being met;
- People have the incentive for sustainable development of their region (even if they do not fully understand its meaning).
- A practical model of public participation in community development is being created (as defined in the Aarhus Convention and the Carpathian Convention).

The festival enjoys massive coverage by the media, so its achievements are well known not only in the region, but also nationwide and outside Ukraine, which attracts even more tourists.

Commentary:

After the UN Summit in Rio in 1992 approved the Concept for Sustainable Development, which is based on understanding of intercon-

nectedness of ecological, economic and social problems of development of the humankind, Ukraine also developed a sustainable development strategy. However, it has not been ratified by the country's parliament yet. Sustainable development is not going to offer a solution to all problems, but it can help to improve living standards of people, who live in the Carpathians, and conserve the environment for future generations.

Mountain landscapes and sceneries, the unique flora and fauna, rich cultural and historical heritage, crafts and traditions in the Carpathians attract numerous tourists and researchers. This has both positive and negative implications. With increasing numbers of tourists and development of industry, especially timber production, anthropogenic pressure on the environment is reaching a critical pint, beyond which harmonious development of the Carpathian ecosystem can be threatened. The ecological and social crises will follow.

The objectives of the Carpathian Convention are to pursue environmentally-balanced policies and co-operate for the protection and development of the Carpathians. And development of sustainable tourism in the region should become one of major directions in this co-operation.

According to **paragraph 1 of Article 9** of the Carpathian Convention, it is necessary to take measures at the local level, which will promote development of sustainable tourism in mountain areas of the Carpathians in each of the seven countries and increase cooperation to this effect.

How can the environment be protected from detrimental effects of tourism development:

- It is necessary to create a legal framework for development of various types of environmentally-friendly tourism:

- Ecotourism - visiting natural heritage sites, designing educational, scientific and informational trails.

- Country green tourism - a recreational type of tourism associated with staying at the host's house, a guest house or a farmhouse in rural areas.

- Sporting tourism - hill-walking, mountain skiing, cycling, equestrian and water sports.

- Ethnic tourism - learning about cultural heritage of ethnic groups in the Carpathians - crafts and traditions - in order to promote their authenticity.

- To establish a network of tourist offices, which will be responsible

for:

- Education and training of managers, information guides, accommodation providers, etc.
- Designing local and international tourist routes.
- Organising environmental camps, including international ones.
- Organising festivals, fairs, exhibitions, master-classes in order to promote arts and crafts.
- Providing customer care for tourists.
- Local authorities must allocate budget funding for development of tourism infrastructure, first of all road maintenance and lighting.
- To develop a programme for preservation and restoration of traditional agricultural practices and crafts.
- Create favourable conditions for investment into the agricultural sector, especially into environmentally-friendly products, e.g. a brand "Zolota roneta" was launched in Kosiv district. This will help to conserve endemic plants species, promote development of fruit and berry production.

As f**or p.2 of Article 9, it is necessary:**

- To start developing cartographical products such as maps of protected sites in all Carpathian countries, maps of tourist routes: ecological, historical, architectural ones, etc and get them registered on the international list of natural and cultural heritage sites.
- To develop and ratify by all countries a law, which would simplify entry visa procedures. Tourists should be able to buy their visas at the tourist offices when they purchase tourist products.
- Environmental organisations, natural parks, reserves in all Carpathian countries should co-operate in order to develop a common Concept of environmental protection.
- To establish a network of informational sites, which would publish the most interesting investment proposals from the regions. This will help to attract more funding for projects, which will improve local people's social and economic standards of living .

In addition, it is necessary to maintain on-going co-operation among the Carpathian countries in the following projects:

- student exchange, organising camps, workshops, conferences, etc.;
- establishing a centre for energy saving and environmental protection in each country and interlinking these centres via the Internet;

- establishing an international fund "Tourist Carpathians" in order to solve burning problems and support public initiatives;

- producing a series of TV programmes, e.g. "Wildlife in the Carpathians" for TV channels in all Carpathian countries;

- developing educational programmes, e-textbooks, computer games and films for school and college students about the Carpathian Convention-related issues.

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Article 10. Industry and energy

which provides for
" the use of cleaner production technologies;
" introducing of environmentally sound methods for the production, distribution and use of energy (including wider use of renewable energy sources and energy-saving measures);
" reducing adverse impacts of mineral exploitation on the environment and ensuring adequate environmental surveillance on mining technologies and practices.

Example 1:

Muzhiyeve polymetallic deposit is known first of all for having gold. It is here that this precious metal was extracted in industrial quantity for the first time in Ukraine. Development of Muzhiyeve gold-mining pit began as far back as the 17th century by Turks. The gold that was easy to mine was taken out and the pit was forgotten for almost three centuries. It was again recalled because of the growing price of silver and the results of geological survey that forecasted the deposit's having not only 50 tons of gold but also 800 tons of silver, 400,000 tons of lead, 800,000 tons of zinc, and about 5 million tons of kaolin - raw material for paper and ceramic industries. Referring to neighboring Romania's experience, it was decided that the deposit should be exploited.

However, not everything happened the way it had been hoped for. The pit started working in 1998 but its profits were not as high as expected. Besides, environmental problems were too fast to emerge: cavities formed due to ore mining, the concentrating mill's "tails" (a semi-liquid mixture of rock from which gold has been withdrawn and water) containing a rather considerable quantity of gold that is, however, impossible to extract because of imperfect technology.

Then, some "improvement" was suggested - separation of gold with the help of cyanides. The high percentage rate of the precious metal's extraction from the rock was emphasized while environmental aspects were not taken into account. Fortunately, not everyone agreed with sayings like the following: "Given trouble-free operation there is no leakage to environment. It is worth paying attention to some isolated ponds nearby?"

In 2000, the world saw an example of such kind of "trouble-free operation": an ecological catastrophe on Tysa river when a cyanide dump happened at a Romanian mine. Most living organisms, for example 80% fish, in the river died. Romania, Ukraine, Hungary, and Yugoslavia declared the need to abstain from using the river water. The millions-worth losses caused to the countries' ecosystems and economies became a reason for tension in interstate relations. Later on, Romanian enterprises polluted Tysa waters with cyanides some more times.

Commentary:

Unfortunately, the technologies used in Ukraine's Carpathian region are far from being perfect as yet. As to the example given, there are other, less detrimental technologies to increase gold extraction efficiency with no cyanide, for example, using bacteria.

It is the reduction of adverse impacts of industry and energy facilities on the environment that is dealt with in Article 10 of the Carpathian Convention. Although today there are fewer examples of positive solution of industry and energy problems than there are environmentally harmful productions, the examples do exist, and using the Convention may become an extra driver to improve environmental conditions and people's well-being.

"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" ***(article 10(1) CC)***.

"Parties shall aim at reducing adverse impacts of mineral exploitation on the environment and ensuring adequate environmental surveillance on mining technologies and practices" ***(article 10(3) CC)***.

Transcarpathia is a region of increased seismic activity. Earthquakes are not rare for neighboring Romania, too. If a dam on a pond with thousands of tons of cyanide solutions in it is destroyed by an earthquake, a disaster is guaranteed. And what can be said about catastrophic floods occurring in the region increasingly often in recent years? Large quantities of water get in a pond tainted with cyanides, it is overfilled, the dam gets broken, and polluting agents get into the soil and water bodies. By the way, it is exactly the way it happened in Romania. Catastrophes caused by accidents resulting in cyanides getting into water also happened in some other countries.

At present, cyanides are not used in Muzhiyeve. The public, local residents, and environment department officials came out against using them. Emphasizing that such projects are inadmissible they referred to the Framework Convention on the Protection and Sustainable Development of the Carpathians.

Example 2:

People had learned to use wind for their purposes since long ago: in particular, they invented a sailer and a windmill, many other tools, accessories, and methods of application. However, these things began to disappear from people's life, and it was already hard, for example, to find a windmill in Ukraine in the second half of the 20th century. It was only in the late 20th and early 21st century that the windmill "has come back" to become the basis for energy facilities - wind power plants.

Windmills are now typical not only for the "country of windmills", the Netherlands, but also for entire Europe. Denmark is worth specially mentioning for its wind power units provide about 20% of electricity produced in this country, and its future plans are to obtain up to 50% of electricity from wind. Other countries also have ambitious plans: Spain intends to get 25% of electricity from wind power plants, and Germany's target is 25-30%.

As scientists estimate, the Carpathians are one of Ukraine's most promising regions as far as wind power engineering is concerned. The mountains provide an excellent location for windmills because winds are blowing there almost continuously.

Truskavets wind power plant (also called Skhidnytsya for being situated on Bukhiv mountain close to Skhidnytsya village, Lviv oblast) is the wind power engineering firstling in the Ukrainian Carpathians. The plant started operating in 1997 at 0.75 MW rated capacity. At present, it provides current to our country's energy system. One can state with confidence that the project has been a good example of environmental safety combined with economic benefit. Truskavets WPP has a pilot status serving as a base for research studying efficiency of possible wind power plants in the Carpathians. Locations suitable for building them are there in all provinces of Ukraine's Carpathian region.

Commentary:

"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" ***(article 10(2) CC).***

Environmentally sound methods for the production of energy include, in particular, such renewable energy sources as wind and solar energy, biofuels, minor hydropower engineering, and geothermal energy.

Wind energy is one of the most interesting examples. To find out whether wind power plans are good or evil a number of questions should be answered:

Are wind power plants really cost effective?

Yes, they are because:

- they can be placed near power consumers thereby reducing electric power transmission losses;
- their operation needs no fossil fuel burning;
- although wind power plants are a bit more expensive than conventional heat ones as per 1 kW of installed capacity, their cost gradually declines while that of fossil fuels grows; hence, the cost of power produced by the two options will become equal;

- by using wind energy Ukraine reduces its dependence on imported energy carriers;

- fossil fuel deposits get exhausted over time but wind does not;

- wind power plants need no large areas: they can be installed, for example, on small plots of agricultural land.

Are wind power plants really environmentally clean?

Yes, they are because no noxious gas is produced in their operation.

Are there any environmental reservations concerning wind power plants?

Yes, there are but danger may be minimized by paying due attention to them:

- windmill operation is noisy but using modern "silent" technologies and moving windmills outside residential areas allow people to be protected against the noise;

- building windmills on nature conservation territories is inadmissible because any intervention into natural ecosystems is able to break their balance;

- birds may die between windmill vanes rotating quickly; this problem is solved by increasing vanes and reducing rotation frequency accordingly, and by not building power plants in the areas where rare animals live and on bird flyways.

What WPP-related issues remain uncertain?

- Wind power plants can create hindrances for the passage of radio and TV signals. However, WPPs, being small in size, affect the signals only slightly while many contemporary units use fiberglass vanes that are semi-transparent for the signals. As to large installations with powerful units, their impact may be reduced by means of deploying them in a rational way.

- Not everyone likes the windmills' appearance, this issue being one of the most contradictory. Some say the windmills spoil scenery while some other suggest to think on what looks worse - chimneys and smoke of a heat power plant, or a WPP. In many countries, architects and designers work to have windmills "fit in" a terrain and look attractively. Besides, windmills should be located outside any territory of especial historical and natural value.

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Article 11. Cultural heritage and traditional knowledge

which emphasises
- the necessity to preserve and promote the cultural heritage and traditional knowledge of the local people, crafting and marketing of local goods, arts, and handicrafts;
- Preserving traditional architecture, land-use patterns, local breeds of domestic animals and cultivated plant varieties;
- Sustainable use of wild plants in the Carpathians.

Example 1:

There is a great number of cultural heritage items in the Carpathian region, particularly in Ivano-Frankivsk oblast. In the small town of Kosiv alone, they are a lot. First of all, it is the well-known monument of church architecture - John the Baptist's Church built in 1912 instead of an ancient one and painted by Volodymyr Huz. In the 14th century, there was a monastery on that place so this church is still called the Monastic Church. No less important is St. Basil's Church built in 1895 by craftsman Ivan Herasymyuk from Babyn village, Kosiv district. A singular-beauty monument of wooden architecture is the Church of the Assumption of the Virgin, the oldest one in Hutsulshchyna, built in 1600 in Pistyn village, Kosiv district. In 1894, painter Adolf Olkhovsky wrote a wonderful icon of Holy Martyr Barbara for the church.

At present, a parochial Polish Roman Catholic church is being restored under the guidance of Rev. Antoniy; the church was built in 1771 in the Roman style and ruthlessly ruined in the 1970s because of the construction of a technical school of folk art crafts.

The Jewish community's rich heritage includes a rabbi's wall and a cemetery under the Miska mountain where there are rare tombs being real masterpieces of stone carving.

Besides, Ivano-Frankivsk oblast has such cultural sites as an ancient settlement and a burial ground dated III-II centuries B.C. (Verkhne

Lypytsya), the Christmas Church (XIII century), ruins of a prince's castle (XIV-XVII centuries, Halych), the Jesuit Church (XVIII century, Ivano-Frankivsk), residues of the ancient Russian town of Halych (XII-XIII centuries, Krylos), a church dated 1575 (Lypivka), an ancient Russian settlement with residues of a rotunda foundation (XII-XIII centuries, Oleshkiv), ruins of a castle (XVII century, Pniv), a salt workers' settlement dated 1367 (Utoropy), an ancient council place and burial grounds (XII-XIII centuries, Khotymyr), a Polish Roman Catholic Church dated 1661 and a castle dated XVII century (Chernelytsya), the Nicholas's Church (XV-XVI centuries, Chesnyky), and many others. At present, none of these monuments has an international status; materials are being prepared about sacral wooden and stone architecture, particularly of the Ukrainian Carpathians, for the UNESCO World Heritage List.

Example 2:

Three winter holidays are most actively celebrated in the Ukrainian Carpathians, particularly in Hutsulshchyna - Christmas, Malanka, and Epiphany.

On Christmas Eve, January 6, everyone is waiting for the first star. When it has appeared everybody may sit down to the festive table with traditional twelve dishes on it, kutya (coliphia) being the main one. After the supper, children go Christmas caroling. Unlike local carolers, they may sing old carols for hours. Traditionally, on Christmas Eve, Hutsuls go to cemeteries where their relatives and friends are buried and greet them with the holiday and leave candles on their tombs. Hutsuls have an amazing attitude to the other world. They arrange a cemetery around a church that is situated, as a rule, in the very center of their village; they play pipes at funerals; etc. A real Hutsul-typical attribute of Christmas holidays consists of the "parties" of carolers. On January 7, men of various age in colorful clothes and hats with feathers gather near the church. They get blessing and go caroling. In big villages the caroling may last up to Epiphany until the "party" (9-12 men necessarily having a violin, a tambourine, horns, and a trembita) has visited every house, sang carols for each of its hosts, and greeted on the holiday.

In a few days, January 13, St. Malania's Day is celebrated followed by St. Basil's Day on January 14. More exactly, most actively celebrated is the night of 13/14 January when "Malanka is looking for Vasyl (Basil)". It is a matchless carnival, a holiday of motley masks and clothes changing. The

Malanka has very old roots: Hutsuls say "it has always been celebrated". This holiday caused special excitement under the Soviet time: people were hiding, roistering and preserving their tradition. Women don't go Malanka caroling, only the most courageous of them, but young lads and men change up to becoming unrecognizable. Most popular characters - Malania, Vasyl (Basil), Grandma, Devil, Jew, Gypsy - may afford behaving absolutely free. Everything is going on with big noise and joy. There are some villages where the Malanka is the most favorite holiday; the number of maskers counts in hundreds that night. It is hard to meet anyone in human appearance on the street.

Epiphany, January 19 (the name Yordan is more popular in Hutsulshchyna), ends the Christmas holidays. The carolers who started caroling on Christmas finish their many-days tour and give the money collected to the church. That money becomes a sort of "fund" from which material aid is granted to the helpless. In some villages, this mechanism of mutual assistance still works excellently. On Epiphany Eve, January 18, like before Christmas, people cook kutya and lenten dishes, and the whole family gathers at the table in the evening. Then they go signing shchedrivkas (Ukrainian rite songs). In churches, water is sanctified this evening and next morning. Chains of people going down from mountains holding cans, jars or jugs decorated with bands make up an unforgettable sight. Most jars contain not only water but also nuts, red apples and viburnum. In many villages, people get ready for Yordan holiday in advance. Men get together a few days prior to the holiday and start working: they build a holiday ice town on the river. Apart from a traditional ice-hole, it has an ice gate, angels, and even firs. Everything depends on the craftsmen's fantasy and desire. Following a church service people, headed by a priest, necessarily go to the river. Water in the river is believed to get extraordinary properties after being consecrated. If a house is aspersed with it the house will never have any trouble, and if cattle is aspersed it will never be sick. Another Hutsul averter is the "mushroom", as they call a wart on the tree. It is boiled, dried and set on fire to drive evil spirits away with smoke. Ritual firing also takes place on Epiphany, during the river celebration.

Commentary:

The Ukrainian Carpathians is the country's only region where beliefs, rites and even partially way of life have remained actually intact since

ancient times. Ethnic and cultural survey of the Ukrainian Carpathians' inhabitants has been active for about 200 years, and a lot of factual materials have been published and collected during this period. As to the nature of population of the Ukrainian Carpathians, it may be asserted that permanent collisions of migration and colonization movements of various ethnic groups were taking place there, and various cultural impacts were emerging at various times.

The ethnographic region of Hutsulshchyna has preserved culture, traditions, way of life, folk crafts, etc., to a greater extent than other ethnographic groups have. As a matter of fact, this is with what it has always attracted the attention of researchers who, while studying ethnic culture, tried to determine the bounds of Hutsulshchyna. Of course, certain elements of the ethnic culture were destroyed or lost during the change of political regimes and external impacts but a good few did remain. The mountain dwellers' ethnic culture features local specificity that describes them as an ethnographic group of the Ukrainian people.

Uniqueness of the mountain region of Hutsulshchyna deserves great attention on the part of the government and scientists, many deep admirers of Hutsulshchyna being among the latter. Caring for consistency in the study of ethnic culture and for its increase, attention of Ukrainian and foreign tourists may be attracted thereby augmenting financial earnings for the region. The ethnic and cultural potential should play a leading part in development of Hutsulshchyna's recreation industry in the years to come.

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Article 13. Awareness raising, education, and public participation

which highlights
- the necessity of increasing environmental awareness and improving access of the public to information on the protection and sustainable development of the Carpathians;
- promoting related education curricula and programmes;
- guaranteeing public participation in decision-making relating to the protection and sustainable development of the Carpathians and implementation of the Carpathian Convention.

Example:

Center for Public Initiatives regional charitable organization (Kosiv town, Ivano-Frankivsk oblast) has experience of involving the public in development of important documents concerning a variety of environmental problems, particularly local ones. The organization gained the experience through having actively worked on preparing the Kosiv Community's Environmental Action Plan for the period until 2006 that was approved by Kosiv district council in December 2003 in the course of the implementation of the Program of Local Environmental Action Plans (2002-2004). The region's major environmental and socioeconomic problems include environmental pollution with solid domestic waste, irrational usage of water and forest resources, and a low level of people's ecological awareness. This experience is extremely topical for the work to implement the Carpathian Convention.

Kosiv district offers good examples of its population's self-organization into cooperative and credit unions. The Center for Public Initiatives, in cooperation with experts, prepares methodological materials concerning possible forms of community resource mobilization, provides training for Kosiv district residents on development of business plans and projects,

intends to render consultations by phone and email concerning preparation of necessary regulations, statutes, local government decisions, etc. This is exactly what the activity of the Kosiv District Community Development Forum - an associative alliance of representatives of local governments, public organizations, other organizations and institutions of the district - is aimed at.

Examples of awareness raising, education and public participation in Kosiv district are as follows:

- publication of Dovkillya Kosivshchyny (Kosiv Area Environment) information bulletin that has grown into Dumka, an independent monthly public newspaper published by the Center for Public Initiatives;
- providing a series of educational training seminars in 2002-2006 on various issues related to the local community's vital activities, education for sustainable development, solid domestic waste management, improvement of the water supply system for inhabited localities, etc.;
- training of 20 public ecological inspectors, jointly with Ivano-Frankivsk department of environment and natural resources;
- the project on "Providing conditions for practical implementation and public participation - the Carpathian Convention in Ukraine" being implemented jointly by Green Dossier international charitable information center (Kyiv), LEAD International (London), and the Center for Public Initiatives (Kosiv);
- organization of regional environmental festivals: Mountain Rainbow (2002-2006) for school children and Ecoworld in a Painter's Eyes (2005-2006) for students;
- holding public hearings, scientific and practical seminars on problematic issues related to the development of the Carpathian region (2002-2006);
- annual actions (1997-2006) for planting trees and organizing parks/dendroparks involving a wide range of representatives of public, business, and authorities;
- dialog with foreign colleagues from Poland and Romania (2003-2006) concerning exchange of experience in addressing environmental problems on the local level.

Educational activities of most environmental public organizations working in the region consist of conducting lessons on environmental

topics in schools, publishing subject brochures and newspapers, and organizing community actions during which educational and advisory work is carried out with their participants.

Activities of organizations working with children differ to some extent: they are based on the education process, development and conducting of educational and pedagogic actions, summer and winter camps, etc. Such organizations include, for example, the Center for Children's Creativity (Kosiv) - environmental training for children; Spadshchyna (Heritage) public organization (Kosiv) - familiarizing children with the region's cultural heritage, learning traditions and customs, teaching traditional folk handicrafts, environmental education basics.

Other organizations conducting educational activities in Kosiv district include Spadshchyna Hutsulshchyny (Heritage of Hutsul Land), Zeleny Svit (Green World), Union of Ukrainian Women, Prosvita (Enlightenment), Hutsulshchyna national natural park, etc.

Commentary:

"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" ***(article 13(1) CC).***

"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 13(2) CC).***

Kosiv district's public organizations are actively involved in the making of environmentally significant decisions and in the exercise of the public's right to information as well as providing advice on citizens' rights and on possibilities to protect them. Representatives of some organizations take part in decision-making processes not only on the regional but also on national or international level. This right is realized through the work of public councils under oblast environment departments; submission of proposals, observations and protests concerning plans and projects; participation in public hearings; participation in international working groups, etc.

Major achievements in environmental education in the Carpathian region, particularly in Kosiv district, are as follows:

- active work of public organizations both with wide public and with individual target groups (youth and children, public organizations, civil servants, etc.);

- cooperation between state authorities of Ukraine and other countries;

- exchange programs promoting better understanding of common environmental protection problems;

- involvement of children in education, in public organizations' work and actions, especially on the voluntary basis, in extracurricular time.

Main shortcomings:

- the government's insufficient attention to environmental education and bringing-up, particularly to practical actions and projects for children and youth;

- lack of proper financing and technical capabilities for the development of environmental education and science - scarcity of funds for publication of educational materials results in shortage of skilled workers;

- insufficient quantity of programs that would increase the citizens' level of awareness on environmental protection matters; this concerns first of all inhabitants of some rural areas in the Carpathian region.

Why do the local people in the Carpathians need this guidebook?

In the process of implementation of the project "Building Capacity for Implementation and Public Participation - the Carpathian Convention in Ukraine" its participants learned about the experiences of other countries and regions in the Carpathians. Having heard about the apple- manufacturing traditions in the White Carpathians (the Czech Republic) and the launch of a local brand for environmentally-friendly products, people who live in Kosiv district started looking at opportunities of establishing similar production facilities and marketing conditions in their area, because Kosiv is a well-established apple-producing area. After some time an initiative group started developing a barnd-project "Zolota Raneta" designed to restore traditional practices of apple growing and manufacturing. Neighbours from a transcarpathian village of Nyzhnye Selyshche brought locally produced cheeses to one of the meetings and shared how

they established a cheese dairy and their entrepreneur experience. This spurred an idea of creating local brands for other products along with apples because Kosivshchina is also famous for its milk, honey, berries and mushrooms. In oreder to support the initiative, local enthusiasts looked for help of the organic farmer association "BIOLan-Ukraine", based in Vinnitsya region, which had not been involved in any activities in Ivano-Frankivsk region before. Consequently, a partnership was established: people from Kosiv district have become members of the association and now getting training in organic farming methods. The experience of Czechs in developing green country tourism alsohelped to initiate local projects. The area has excellent conditions for the development of sustainable tourism. However, as it was pointed out at one of the meetings, the educational component is still weak, especially in school curricula and programmes. This time help came from Kyiv-based theatre group "Children's Playground Ravlyk" (the Snail). The group developed a play for primary school students, which was warmly welcomed by teachers and students of the local school in Sheshory.

The project and its initiatives attracted attention of members of the local and regional authorities. Concrete measures related to development of traditional business practices, which are ecologically sound and can provide social and economic benefits to local people, can form a realistic basis for programmes and action plans related to the implementation of the Carpathian Convention, which must be developed by local government bodies and ensure public participation. Initiatives and proposals that result from the project are ready-to-use recipes for action plans. In this way, documents agreed at the highest government level can be linked to everyday life of people, for whom these agreements are made. Examples of using the Carpathian Convention in different parts of the Carpathians, which are described in our guidebook, will help to implement the convention at the local level. They can be considered in the process of development of policies, programmes and plans, in assessment of ecological and economic situation in a certain n area. The project "Building Capacity for Implementation and Public Participation - the Carpathian Convention in Ukraine" has made it clear that the neighbours' experience often helps to solve own problems and launch own initiatives for sustainable development at the local level.