Sustainable Tourism Development in Mountain Regions: The Case of the International East Carpathians Biosphere Reserve

FINAL REPORT

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1. Abstract

In 1999, the East Carpathians Biosphere Reserve (ECBR) was completed as the first trilateral reserve in the world. The Reserve's area includes three National Parks and four Landscape Parks in Poland, Slovakia and the Ukraine. Cross-border tourism based on the Reserve's natural and cultural heritage premises should become a logical focus for its regional development and could progressively change the occupational profile of the local population. Taking into account a view that organisation of cross-border infrastructure for pedestrian, bicycle and horseback tourists could strengthen recreation sphere of the Reserve on one side, and a fear that new investments could negatively influence the area biodiversity on the other side, a compromise between two radical approaches is suggested. Creation a tourist mark of the Transboundary Eastern Beskid Culture and Nature Heritage Area could strengthen socio-economic situation of the region, and - at the same time - diminish human pressure in the most valuable ECBR central zone.

Keywords: Biosphere Reserve, Protected Area, Tourism, Nature and Culture Heritage, Carpathians, Mountains, Sustainable Development, Transboundary Cooperation.

2. Objectives

I have focused on the interaction between large-scale protected areas, socio-economic situation and tourism development. I have examined the causes and results of the interactions between environmental public policy (mountain landscape and national parks tied by the international biosphere reserve system), regional sustainable development, and tourism which can generate

financial benefits, some jobs for local people on one side and the parks-and-people dilemma on the other. My approach combined participant observations, unstructured interviews and case studies. The main target of the research was the land management analysis confronted with a sustainable tourism development by defining and finding all innovative mechanisms and promising examples on one side and conflict areas on the other. The final work includes possible scenarios of the future regional development, showing its strong and weak elements. I have used a field method research. All villages situated in the biosphere reserve have served as the study sites. I have collected information from secondary and primary sources on census and other demographic and statistic data on the people and their settlements. I reviewed maps and spatial development plans of the region, scientific reports and articles. I have done quantitative analysis of the data collected presented in a form of matrixes and maps. I used unstructured interviews with park managers, local inhabitants, service providers. Opinion survey with selected experts has been applied.

3. Findings

1. East Carpathians Biosphere Reserve (ECBR) tends to suffer from being on the economic periphery and is characterised by low density of population and adverse balance of migration, socio-economic undergrowth and limited infrastructure (e.g. transportation and communication, accommodation and other services).
2. The political and economic situation following the transformations of the nineties brought new potentials of cross-border co-operation. Carpathian Euroregion became the most visible example of multilateral activities, however it has taken a long time to understand the role of initiatives stimulating a new sense of regional development. In addition, the situation of the region in question is rather complex and complicated, rooted in the 20th century difficult and oftentimes tragic history. Under these circumstances, first of all, the elite of all three countries should strive to improve the cross-border situation. The development of market economy and entrepreneurship (sustainable tourism development) might alter negative stereotypes. Next

step should be done at the local level by supporting bottom-up initiatives framed by political and legal regulations.

3. Quality and development of infrastructure, needed for regional tourism, depends strongly on the financial and administrative resources of the border region in question. More external projects, skills and know-how should be implemented in the area. Mainly in the Ukrainian and Slovakian parts of ECBR.
4. Rapidly changing geopolitical situation (European Union enlargement) influences ECBR land management including possible strengthening of cross-border co-operation. Open question is how national parts of ECBR will work together after Poland's and Slovakia's EU accession. A negative scenario shows that isolation might result in dramatically growing tourism development in Bieszczady National Park, while Uzhanski and Poloniny National Parks remain culturally and economically underdeveloped.
5. For the future tourism development, management strategies should be implemented (e.g. Local Environment Action Programme). As part of the management strategies, education of residents and visitors is critical. Codes, standards and measurements in sustainable tourism are particularly helpful. Development of initiatives supporting tourism should combine aspects of community development, and protection / promotion of the culture and nature heritage.
6. In today’s technologically oriented society (e.g. shifting from backpackers’ hiking to mountain biking, paragliding or to extreme winter sports like skialpinism or heli-skiing), park managers are in need of staying current with new developments in recreation activities in order to meet or limit the needs of new oriented tourists.
7. Taking into account a view that organisation of cross-border passages for pedestrian, bicycle and horseback tourists could strengthen recreation sphere of the Reserve on one side, and a fear that new border passes could become the regional transportation corridors on the other side, a compromise is suggested between two radical approaches. Creation a tourist mark of the Transboundary Eastern Beskid Culture and Nature

Heritage Area could strengthen socio-economic situation of the region and the same time diminish human pressure in the most valuable ECBR core zone ecosystems.

4. Difficulties

a. In June 2000, Dr. hab. Jerzy Groch, my PhD supervisor, died after a long cancer illness. I lost the irreplaceable scientific tutor and much more an older colleague who advised me how to proceed with the research.

In January 2001, Prof. Danuta Ptaszycka-Jackowska, Institute of Space and Municipal Economy, Kraków, has become my new supervisor.

Prof. Ptaszycka-Jackowska is a landscape architecture expert, dealing with modelling of the large-scale protected areas, including regional tourism development.[1] After initial consultations, my new tutor convinced me to widen the doctoral work and focus on analysis of the three functions of the Eastern Carpathians Biosphere Reserve: *conservation* of biodiversity and ecosystems, *development* (association of environment with development) and *logistics* (international network for research and monitoring). I have changed my doctoral thesis title to "*Conditions of Transboundary Co-operation between Nature Protected Areas: The Case of the East Carpathians Biosphere Reserve*". Collected data and findings on tourism management, made under the RSS grant, belong to the second function of a model biosphere reserve, which foster economic and human development.

b. While applying for a grant, the area of the East Carpathians Biosphere Reserve covered 170 190 ha. Later, the Ukrainian portion of the Biosphere Reserve was extended to 213 033 ha, covering more human

[1] See: Ptaszycka-Jackowska (1993, 1995, 1997), Ptaszycka-Jackowska, Baranowska-Janota (1989).

settlements. The new situation has obliged me to work more intensively than was earlier planned.

c. Despite the fact that the three researched territories in Poland, Slovakia and Ukraine are directly adjacent to each other, the most immediate was the difficulty of communication and meetings with authorities, decision-makers, and protected area managers. Communication and travel sometimes have been difficult because of bad roads, poor public transportation, and lack of accommodation facilities. There are no border passes between Slovakian and Ukrainian, Ukrainian and Polish parts of BR and it takes much longer time, with many changes of public transportation, to visit the region. Of course, in many cases, the BR managers helped me with getting to remote, peripheral villages.

d. Up-to-date data were often difficult to obtain, contradictory, inaccurate, or non-existent for some topics. Sometimes access to government documents on conservation planning, regulation, and land use was not possible. Due to different systems of national/regional statistics, it was not always easy to compare and interpret data from different countries/regions. There are limited scientific monographs available for the biodiversity and geography of the individual national and landscape parks constituting ECBR. There is one very preliminary monograph on the East Carpathians Biosphere Reserve, however the publication doesn't discuss such topics as cross-border co-operation and tourism development.[2] Taking above into account, it should be stressed that final findings of this project may contain a few minor errors and omissions.

5. Intended use of the findings and how they will be publicised

As presented in my project proposal, the final work should not end by constructing a theoretical model but rather discuss possible scenarios of future regional development.

[2] Breymeyer A. (ed.), 1999, The East Carpathians Biosphere Reserve. Poland/Slovakia/Ukraine. UNESCO-MAB Committee of Poland. 61 pp.

Most of all, I am going to share my findings with the Foundation for Eastern Carpathian Biodiversity Conservation, acting as the most influential body for initiating cross-border activities in the ECBR. Secondly, I have already discussed possibility to present the project's results during a meeting of the National UNESCO-MAB Committee of Poland. Other presentations or posters at the conferences organised by the MAB Committees in the Ukraine and Slovakia would be possible.

I have prepared several papers including the recent one: *"Kszta³towanie turystyki transgranicznej w Rezerwacie Biosfery "Karpaty Wschodnie" w warunkach przeobra¿eñ ustrojowo-ekonomicznych Europy Œrodkowej i Wschodniej.* (English translation: Tourism Development in the East Carpathians Biosphere Reserve after Political and Economic Transformations of Central and Eastern Europe [in:] (ed. J. Partyka), *U¿ytkowanie turystyczne parków narodowych. Ruch turystyczny – zagospodarowanie – konflikty – zagro¿enia*, Instytut Ochrony Przyrody PAN, Ojcowski Parki Narodowy, Kraków. Paper will be presented (and at the same time publicised) during a national conference on June 13-14, 2002 in the Ojcowski National Park, Poland.

As a result of the RSS project dissemination through Mountain Forum electronic list, I have been invited to present a paper on "Social, Economic and Political Dynamics of Cross-Border Co-operation in the Carpathians" at the International Symposium organised by Graz University, Austria in September 2002.
http://www.kfunigraz.ac.at/geowww/europesymposium

In addition my findings have been evaluated positively by Dr. Ian C. Meerkamp van Embden, president ALPENFORUM , http://www.ALPENFORUM.org

Beside scientific presentations and publications, in order to use all material collected and not presented in the papers, I am going to prepare a manual of good practice in cross-border mountain tourism development, which could be available through the Internet. This On-line publication should be helpful to policy-makers, park managers, local authorities, NGOs and students interested in the Carpathian Mountains development (see next chapter on future developments).

6. Future developments

I have found, after completing the project, that it could be useful to continue investigation on tourism development in tranboundary Carpathian Biosphere Reserves and other large-scale protected areas. I have prepared a preliminary paper for publication, titled *Turystyka w karpackich rezerwatach biosfery* (English translation: Tourism in the Carpathian Biosphere Reserves) which will be publicised in *Prace Geograficzne Uniwersytetu Jagielloñskiego, Kraków.* Future months will show what co-operation would be possible with both the UNESCO Pro Natura, Romanian Association for Action in Protected Areas, and Legambiente (its Parks and Territory Office), the most widespread environmental organisation in Italy. The common interest is to prepare a scientific and NGOs team and expertise exchange in order to benchmark[3] good examples of co-operation. Some ideas could be implemented into the planned bilateral Ukrainian-Romanian Biosphere Reserve, bridging "Carpathian" BR with Pietrosul Mare (Rodnei) BR.

As concerns the manual of good practice mentioned a few lines above, I have agreed with the Carpathian Heritage Society[4] to prepare an On-line archive including my work and other accessible documents on tourism development in the Carpathians.

In addition, I am involved in activities of the International Year of Mountains, by supporting creation the Carpathian node of the Europen Mountain Forum (electronic discussion list, newsletter and website[5]). Promising examples of the international Carpathian co-operation should be presented there.

7. General remarks

I would like to thank the RSS Committee for enabling me to carry out the research. Substantial international attention is currently focused on the problems of biodiversity protection, and there has been considerable interest in developing transboundary agreements and other international co-operation for

[3] Benchmarking is 'the process of identifying, learning and adopting outstanding practices and processes from any organisation anywhere in the world, to help an organisation improve its performance' (Wright 1999).

[4] Carpathian Heritage Society, http://www.carpathian.org.pl

[5] European Mountain Forum, http://www.mtnforum.org/europe

this goal. International organisations such as UNEP, the MAB programme, IUCN, the World Bank, the Council of Europe, WWF, and many other governmental and private bodies have active programs for biodiversity conservation (natural sciences). However only some foundations (including RSS) substantially have financed and supported interdisciplinary approach of individuals, who focus on human and ecotourism development in Central and Eastern Europe.

8. Specific activities

(a) Field research, archival studies and (b) Study trips

25-28.02.2000: Central European University library, Budapest – searching books and articles on ecotourism, sustainable tourism and sustainable development.

6-7.04.2000: Warsaw, National UNESCO- MAB Committee of Poland – library. Documents concerning Polish part of the Biosphere Reserve and biosphere reserve concept in general. Meeting with Prof. Alicja Breymeyer's team.

24.04 - 6.05.2000: Lviv University library, Faculty of Geography library, Ivan Franko State Library, the "Carpathian School" Ecological and Educational Society's archive. Documents concerning Ukrainian part of the Biosphere Reserve. Meetings with Prof. Stepan Stoyko, Ukrainian Academy of Science, Faculty of Geography, Lviv University, Dr. Volodimir Shusniak, "Carpathian School" Ecological and Educational Society.

9-14.06.2000: Poland/Slovakia/Ukraine - field research combined with seminar on sustainable development in the East Carpathians Biosphere Reserve. Persons contacted: Elisabeth Samec, Coordinator of WWF International, Danube –Carpathian Programme, Vienna; Dr. Kajetan Perzanowski, Carpathian branch of the Polish Academy of Science, International Centre of Ecology; Robert Stêpieñ, Tourism Development Society, Cisna, Poland; Henrieta Marcinekova, Travel Agency Unitur, Snina, Slovakia; Michal Matis, President of the Friends of Eastern Carpathians Society, Snina, Slovakia; Vasil Kopacz, Director of the Uzhansky National Park, Dr. Vladimir Kricsfalusy, Leading Researcher, Laboratory of Environment Conservation, Uzhgorod State University.

25-26.07.2000 Aggtelek Biosphere Reserve, meeting with Zsuzsa Tolnay, Executive in Tourism, Aggtelek National Park – books and materials on the Aggtelek Biosphere Reserve.

29.09.2000: Warsaw, the Institute of Tourism – library and archive. Material concerning tourism statistics and planning in Poland and CEE countries. Meeting with Alicja Gotowt-Jeziorska, Landscape Architect, Ministry of Economy, Division of Strategy, Regional Co-operation and Aid Programmes, Department of Tourism.

2-5.10.2000: Ukraine, Uzhanski National Park – field research combined with workshop entitled “Creation of the possibilities for the sustainable tourist development on the newly created nature preserving territories”. Contact with Vasil Kopacz, Head of the Uzhanski National Park.

25-26.11. 2000: Poland, Babiogórski Biosphere Reserve – Zawoja – documentation.

28.12.2000-2.01.2001: Polish part of the East Carpathians Biosphere Reserve – field research and documentation, meeting with Jacek Jankowski, manager of the Foundation for Eastern Carpathian Biodiversity Conservation.

12.03.2001: Warsaw, National UNESCO- MAB Committee of Poland – library.

25-26.03.2001: Warsaw, National UNESCO- MAB Committee of Poland – library.

14–22.07.2001: Slovakia, Banska Bystrica (Regional scientifical library and library of the Slovak Agency for Nature Protection - SAZP), Liptovsky Mikulaš (former Centre on National Parks in Slovakia and SAZP branch – meeting with Ing. Tatiana Noskova, landscape architect, working for the Slovakian programme supporting countryside revitalisation (Program Obnovy Dediny).

28-29.08.2001: France, Paris (UNESCO MAB Division of Ecological Sciences, UNESCO Culture Heritage Division - bookshop, library, documentation).

5-7.09. 2001: Poland – field research and meetings: Rzeszów (Regional Government of the Podkarpackie Voivodeship – Department of International Co-operation and Promotion, Dept. of Regional Policy, Podkarpackie Statistical Office); Krosno (Administration of the Carpathian Landscape Parks – Jan Stachyrak, Director, Fund for Development of the Carpathian Euroregion – Zofia Kordela-Borczyk, Director); Ustrzyki Dolne (Administration of the Bieszczadzki National Park – Ryszard Prêdki, specialist in tourism development, Bieszczady Poviat Authorities – Mariusz Wermiñski, Deputy Head).

9-14.09.2001: Ukraine – field research and meetings: Turka (Regional Authorities – Statistical Office), Sianki (Stepan I. Vasileczko, village chief officer, expert and co-founder of the Nadsianski Regional Landscape Park), Velkij Bereznyj (Regional Authorities – Statistical Office, Administration of the Uzhanski National Park - Vasil Kopacz, director), Uzhgorod (Statistical Office, university library).

14-20.09.2001: Slovakia - field research and meetings: Prešov (Regional Statistical Office, university library), Snina (Administration of the Poloniny National Park – Miroslav Bural, Director; Regional Authorities, Agency for Regional Development, East Carpathians Tourism Society – Jan Roško, President).

(c) Conference, seminars, meetings

4.04.2000: Kraków, Information exchange meeting about *the WWF Carpathian Programme*. Environmental Partnership for Central Europe. Meeting with Dr. Jerzy Sawicki, Polish Ecological Club, Section on the National Parks, Prof. Zbigniew Witkowski, Institute of Nature Protection, Polish Academy of Science,

Jacek Jankowski, Foundation for the Eastern Carpathians Biodiversity Conservation.

24.07-3.08.2000: Slovakia/Hungary, *Carpathian Cycle Route project*: Slovensky Kras/Aggtelek Biosphere Reserve. Documentation on tourism in the Carpathian Euroregion, documentation on Aggtelek BR, Slovak part of the East Carpathian BR. Meetings with local authorities, members of tourism organisations from the region (e.g. Presovska Bicycle Group and Dr. Radu Mititean, Director Executive, Clubul de Cicloturism “Napoca”.)

13-19.08.2000: Herrenwies, Schwarzwald. Germany - International Meeting and Workshop *Ecotourism in Fragile Environment. European Perspective.* Schwarzwald Ecological Centre. (Participant).

19-21.10.2000: Kudowa Zdrój, Poland - International Seminar *“Conditions of the Foreign Tourism Development in Central and Eastern Europe. Changes in Model of Tourism in the last Decade”*, University of Wroc³aw, Institute of Geography. Speaker on: *Sustainable Tourism Development in Mountain Regions: The Case of the International East Carpathian Biosphere Reserve.* Contact and discussion with Prof. Peter Jordan (Austrian Institute of East and Southeast European Studies, Vienna) on contribution to *Transcarpathia Project* (cross-border co-operation, sustainable development and nature protection, biosphere reserves, tourism).

7.04.2001: Rabka, Poland – Seminar *“Nature Based Tourism in Protected Mountain Regions”*, Carpathian Heritage Society, Kraków (speaker).

5-11.08.2001: Romania – participant of *the Carpathian Cycle Route project*: Visiting and collecting documentation on Rodnei (Pietrosul Mare) Biosphere Reserve. Meetings with local authorities, members of tourism organisations from the region (Emilian Burdusel, Director UNESCO Pro Natura – Association for Action in Protected Areas, Dr. Ion Barbu, Forest Research Institute Division

of Campulung, Natural History Museum Sighet, Ecological Society of Maramures).

9-10.10.2001: Stara Lesna, Slovakia, International Workshop *"Changing Natural and Cultural Values in Biosphere Reserves",* Slovak National Committee for the UNESCO Man and Biosphere Programme (participant). Meeting and contact with Ing. J. Oszlanyi, head of UNESCO MAB Slovakia; Dr. P. D¹browski, UNESCO MAB Poland; Dr. H. Löffler, MAB Austria, Dr. J. Kvet, MAB Czech Republic; Dr. V. Ira, Dept. of Geography, Slovak Academy of Sciences; Dr. Lubos Halada, Institute of Landscape Ecology, Slovak Academy of Science; Miroslav Bural, Director of the Poloniny National Park; Dr. Z. Krzan, Tatry Biosphere Reserve.

9. Publications and other results

Published conference papers:

Klimkiewicz M., 2000, *Development of Trans-boundary Sustainable Tourism in the Carpathians: A Case of the Eastern Carpathians Biosphere Reserve* [in:] (ed. J. Wyrzykowski), Conditions of the Foreign Tourism Development in Central and Eastern Europe. Changes in model of tourism in the last decade, University of Wroc³aw, Institute of Geography, Department of Regional and Tourism Geography, Vol. 6: 49-61.

Klimkiewicz M., 2001, *Rozwój turystyki transgranicznej w Karpatach na przyk³adzie Miêdzynarodowego Rezerwatu Biosfery "Karpaty Wschodnie"* [in:] (ed. J. Wyrzykowski), Uwarunkowania rozwoju turystyki zagranicznej w Europie Œrodkowej i Wschodniej. Zmiany modelu turystyki w ostatnim dziesiêcioleciu, Uniwersytet Wroc³awski, Instytut Geograficzny, Zak³ad Geografii Regionalnej i Turystyki, Tom VI: 53-68.

Klimkiewicz M., 2002, Rethinking Tourism and cross-border Co-opration in the Carpathians: A case of the Polish-Ukrainian-Slovakian Partnership [in:] BGMS-

B3 Mountain Forum electronic conference on Mountain tourism and the Conservation and Maintenance of Biological and Cultural Diversity.

Book in course of publication:
Klimkiewicz M., 2001, *Transcarpathia. Environment: legal aspects, biodiversity, protection.* [in:] (ed. M. Klemencic and P. Jordan) *Transcarpathia*, Austrian Institute of East and Southeast European Studies, Vienna.

Policy paper:
Klimkiewicz M., 2001, *Zarys charakterystyki polsko-słowackich obszarów przygranicznych* (English translation: An outline of characteristic of the Polish – Slovakian border and the adjacent territories.) [in:] (ed. Berkowa A. and Jackowska-Ptaszycka D. et al.) Studium kierunkowe zagospodarowania przestrzennego obszaru wzd³u¿ granicy polsko-s³owackiej, IGPiK, Kraków, AZP Banska Bystrica.

Article submitted for publication:
Klimkiewicz M., *Kszta³towanie turystyki transgranicznej w Rezerwacie Biosfery "Karpaty Wschodnie" w warunkach przeobra¿eñ ustrojowo-ekonomicznych Europy Œrodkowej i Wschodniej* (English translation: Tourism Development in the East Carpathians Biosphere Reserve after Political and Economic Transformations of Central and Eastern Europe. [in:] (ed. J. Partyka), U¿ytkowanie turystyczne parków narodowych. Ruch turystyczny – zagospodarowanie – konflikty – zagro¿enia, Instytut Ochrony Przyrody PAN, Ojcowski Parki Narodowy , Kraków.

10. Detailed summary of the results of the research

Framework of the research: definitions, concepts, principles and recommendations

To examine development of cross-border tourism development in the East Carpathians Biosphere Reserve, I began with theoretical analysis of the issues mentioned in the project proposal to find new definitions, analytical tools and clarify its conceptual framework. I have reviewed existing literature to define a model of transboundary and sustainable tourism principles and standards framework, being prerequisite for the future research[1].

Substantial international attention is currently focused on the problem of biodiversity protection and human development in transboundary regions. One of the modern forms of spatial management, which gives a new dynamics to remote, peripheral but valuable ecosystems and combines nature conservation with development is the biosphere reserve concept (Batisse 1982, MAB[2] UNESCO 1984, 1987). Land management of the biosphere reserves promotes such functions as sustainable economic and human development, contrary to other forms of protected areas focusing mainly on nature protection.

The Statutory Framework of the World Network of Biosphere Reserves takes into account diversity of national and local situations. States are encouraged to elaborate and implement national criteria while designate individual biosphere reserve (hereafter BR). BRs should strive to be sites of excellence to explore and demonstrate approaches to nature protection and sustainable development on a regional scale in:

(i) Conservation of landscapes, ecosystems, species and genetic variation;

[1] See references including the books and articles reviewed and cited.
[2] MAB means the Man and Biosphere Program supported by UNESCO.

(ii) Fostering economic and human development;

(iii) Logistic support for demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development.

Above mentioned functions shape the appropriate zoning of individual BR, which should contain:

(i) Sufficient in size core area or areas devoted to long-term nature conservation;

(ii) Buffer zone or zones surrounding or contiguous to the core area, where only activities compatible with the conservation objectives can take place;

(iii) Transition zone, where sustainable resource management practices are promoted and developed.

In March 1995, the International Conference on biosphere reserves was organised by UNESCO in Seville (Spain). This conference recommended actions to be taken for the development of biosphere reserves, and prepared the "Statutory Framework" setting out the conditions for the functioning of the World Network of Biosphere Reserves.

The Seville Strategy for Biosphere Reserves is the focal document that makes general overview of the first phase of BR implementation, giving recommendation for future development. Taking into consideration a statement that „biosphere reserves are much more than just protected areas", we should concentrate in further analysis on important, to tourism researchers and planners, the Strategy's notes concerning tourism role in BR.

Buffer zone or zones, according to Seville Strategy, may be used for co-operative activities including environmental education, recreation and ecotourism. Flexible transition area may contain a variety of agricultural activities, settlements and other uses, in which local communities, management agencies, scientists, non-governmental organisations, cultural groups, sustainably develop the area's resources. Objective II.2 of the Strategy says

about ensuring better harmonisation and interaction among the different zones. It is recommended at the individual reserve level to:

> *"establish a local consultative framework in which the reserve's economic and social stakeholders are represented, including the full range of interests (e.g. agriculture, forestry, hunting and extracting, water and energy supply, fisheries, tourism, recreation, research)".*

Close relations with tourism services are enclosed in the objective II.1 on securing the support and involvement of local people. It is recommended at the individual reserve level to:

> „...*ensure that the benefits derived from the use of natural resources are equitably shared with the stakeholders, by such means as sharing the entrance fees, sale of natural products or handicrafts, use of local construction techniques and labour, and development of sustainable activities".*

In 1998, the MAB International Co-ordinating Council at its 15th session, called for a review of the first five years implementation under the title *Seville+5* (MAB UNESCO 2001b). The Seville +5 International Meeting of experts was held in Pamplona, Spain in 2000. The specific objectives of the meeting were:

(i) Identifying priorities for attention in the overall Seville strategy;
(ii) Identifying obstacles to implementation at the international, site and national levels, and means to solve existing problems;
(iii) Identifying growing issues of importance for the future of the World Network of Biosphere Reserves.

The Seville +5 meeting also provided the occasion for a task force meeting on transboundary biosphere reserves.

As of September 2001, the World's biosphere reserve network included 411 units in 94 countries (MAB UNESCO 2001a). Nine BR are based in the Carpathians (Table 1, Map 1). Three of them are international and the other three should constitute clusters of adjoining protected areas in the future.

Table 1 Biosphere Reserves in the Carpathians

No ▲	Biosphere Reserve's Name	Country	Year designated	Type of trans-boundary co-operation	Altitude (metres above sea level)	Total area (hectares) = 100%	Core area (%)	Buffer area (%)	Transition area (%)
1.	Babia Góra	Poland	1976	a	750-1725	~3 392	31%	69%	0%
2.	Slovensky Kras – Aggtelek	Slovakia	1977	bilateral	217-925	~74 500	12%	31%	57%
		Hungary	1979		150-600	20 159	2%	98%	0%
3.	Pietrosul Mare (Rodnei)	Romania	1979	b	900-2303	44 000	19%	27%	55%
4.	Retezat	Romania	1979	x	650-2509	55 000	9%	36%	55%
5.	Polana	Slovakia	1990	x	460-1458	20 079	6%	48%	46%
6.	Tatra	Poland	1992	bilateral	750-2499	17 906	42%	36%	22%
		Slovakia	1992		700-2655	105 660	47%	22%	31%
7.	"East Carpathians"	Poland	1992	trilateral	620-1346	113 845	16%	8%	76%
		Slovakia	1992		210-1208	40 601	7%	35%	58%
		Ukraine	1998		226-1251	58 587	5%	14%	81%
8.	„Carpathian"	Ukraine	1992	b	200-2061	57 800	33%	20%	47%
9.	Bílé Karpaty	Czech Republic	1996	c	175-970	71 500	13%	51%	36%

▲. The same numeration as used in Map 1.
a. Polish-Slovak BR is under preparation (Trnka 2001).
b. Long term process to connect "Carpathian" BR with Pietrosul Mare BR began in 2001.
c. Possible BR's extension to Biele Karpaty Protected Landscape Area in Slovakia.
x. Not applicable.

Source: UNESCO MAB, tabulated by the author.

Conception of development, often used in MAB UNESCO terminology, means different things to different stakeholders, especially within nature protected areas, where for instance tourism generates financial benefits, some jobs for local people on one side and the parks-and-people dilemma on the other (Daniels 1993). I agree with Binns (1995), that development - in addition to economic issues - encompasses social, environmental, and ethical considerations, and its measurment may incorporate indicators of poverty, unemployment, inequality, and self-reliance. Development may be set up at a variety of scales from individual to the regional, national, and even international.

Literature on sustainable development includes many positions (see references in Clayton and Radcliffe N. 1996; Faucheux 1998). The World Commission on Environment and Development - "Brundtland" Report (WCED 1987) is the key statement of sustainable development. The Report defines sustainability as the process:

> *„...that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

The main components of sustainability, as interpreted by Brundtland, should:

(i) Revive growth;
(ii) Change quality of growth;
(iii) Meet basic needs;
(iv) Stabilise population;
(v) Conserve and enhance resources;
(vi) Reorient technology and manage risk;
(vii) Link environment with economics.

The idea of sustainable tourism[3], often described in the last decade (Inskeep 1991; Whelan 1991; WTO 1993; Cater 1994; Barkin 1996; Coccossis 1995,1996; Nath 1996; Price 1996; France 1997; McKercher 1997; Wight 1997; CDIE 1998; Hall 1998; Mowforth 1998; Victor 1998; Steck 1999) is still quite

[3] Sustainable tourism and ecotourism are being used as synonyms in the report.

uncertain and ambiguous. The assertion that we all know what sustainable tourism means is manifestly untrue in terms of both the literature and experiences learned from different cases. The difficulty is to promote economic growth, that tourism can generate, whilst avoiding the consumption of natural resources at an unsustainable rate. We agree that the concept must remain within the limitations dictated by the local ecosystems. According to Inskeep (1991):

> *"... the sustainable development approach can be applied to any scale of tourism development from large resorts to limited size special interest tourism. (...) Sustainability depends on how well the planning is formulated relative to the specific characteristics of an area's environment, economy, and society and on the effectiveness of tourism."*

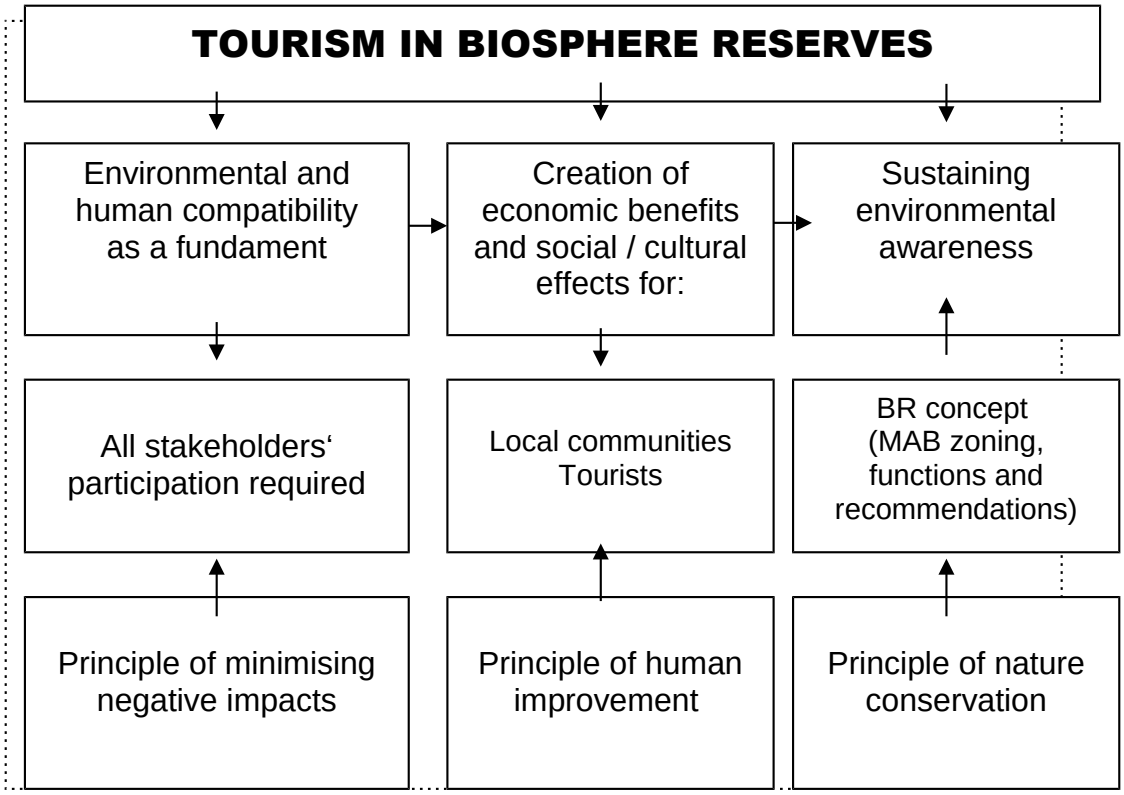
For the purpose of my research I have adopted definition recommended by the World Tourism Organisation (1993):

> *"Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems".*

Above definition precisely follows the sustainable development conception proposed by the World Commission on Environment and Development.

Since the focus in my research has touched upon protected areas and rural regions, the concept of appropriate tourism – in the sense of sustainable, nature-oriented and community based form – stems from the conservation paradigm. I have prepared a figure, which illustrates basic principles important for tourism development in BR (figure 1).

Figure 1. Basic Principles for Tourism Development in BR



Unstructured surveys with park managers, review of scientific and regional literature and field research convinced me that history, landscape and culture assets of the East Carpathians Biosphere Reserve determine two main types of local tourism – nature and culture oriented[4]. This obvious at first glance finding was fundamental for my future work. Mountain area of ECBR is rich in natural resources that include water, timber and biodiversity. As a desired destination for many tourists, mountains offer a place of rest, solitude, adventure, recreation and scenic beauty. Equally important is the rich cultural heritage of the mountain peoples living there.

Defining heritage tourism

Heritage tourism provides visitors with the opportunity to experience the special values offered by rich in history and culture region (Carr 1994; Herbert 1995;

[4] I describe precisely the ECBR culture heritage sites in the next chapters.

ICOMOS 1999; TCA, AHC 2000). Central to heritage tourism is knowledge about the significance of a place and its associations with the local community, their history and the cultural and natural landscape. Understanding the significant values of places is an essential foundation for developing and marketing associated tourism products. The heritage tourism guidelines should meet the needs of both the tourism sector and the heritage management sector in order to be successful[5]. What is a heritage resource? It may be a place, a document, a pictorial record or oral tradition (legend), song or dance. Heritage places are often described as either natural or cultural but, in reality, they usually possess many different values. The vast territory of ECBR contains many vanished, uninhabited villages, cemeteries, single crosses and chapels, wooden and stone churches and traditional buildings, and other historic features. Understanding this complex heritage area means recognising all elements and respecting all values. Places may be small and contain such elements as a wooden church and its close environs, or they may cover large areas such as mountain meadows or forested valley. Sometimes, features that occur by themselves may be part of a more extensive cultural landscape, or series of linked places. For example, an old building may have been an old border station, where Austrian-Hungarian soldiers stayed. Similarly, tracks of old narrow gauge railway form a more extensive forest industry landscape where logging industry occurred. Places do not have to contain physical remains to be important. For example, places with high aesthetic, social, religious or symbolic values may not have visible signs of occupation, but may nonetheless be significant for the response they evoke in people or for the associations that people might have with them.

Information about heritage resources may come from a range of sources:

(i) Heritage agency databases

(ii) Government department files, plans and archives

(iii) Local communities

(iv) Literature: books, reports, articles

[5] As heritage is not a renewable resource, site managers have a primary duty to protect and conserve their sites.

Historic places may be grouped into types and themes – such as route of icons, I World War in the Carpathians, vanished world of neighbouring cultures (Boyko, Lemko, Jewish).

If we already know what tourism should be implemented, the open question remains how to maintain possible development. How to fit ideas into practise regulated by BR principles. The classic approach, which is top-down, state instigated and expert-led, usually involves a three stages process: problems and opportunities are identified by external agents; technical measures are developed and selected by the state agencies; and plans are implemented through a mixture of encouragement and coercion (Blaikie 1996).
The top-down, expert-led approach is evident in the control exerted by multinational companies, with their external capital, expertise, technology and ideas. In the situation of ECBR we should rather search for a small-scale, bottom-up development involving local people from the beginning. Alternative approaches that stem from grassroots development, including certain types of community-based tourism exhibit more sustainable characteristics than does mass package tourism. An aspiration to return to traditional values and skills can result in cultural and craft revivals that can act as important tourist attractions, as well as increase local pride and self-confidence, and boost the local economy (France 1997).

Concept of community-based mountain tourism has been defined during an Electronic Conference of the Mountain Forum on April 13 - May 18, 1998 (Mountain Institute 1999). One of the major issues, which arose during the conference, was the need to define community. Some definitions, which base on shared profession, religion, geographical location, interest in tourism or the interactions and relationships between the many groups were considered. It has been emphasised that there is evidence of the growth of interest-based community, especially in more economically developed regions. Sharma (Mountain Institute 1999) highlights the complexity of the issue and gives a basic definition of community with regard to community-based tourism:

"A community could be considered as a tradition-based (indigenous), or formal organisation of individuals and households. Such a community may include everyone residing in a particular area, or those that come together because they:

(i) share a defined area and common resources or "public goods" within the area,

(ii) have a common interest in benefiting from the use/management of these "public goods"

(iii) are enabled to participate in all decision making process (...)

(iv) are autonomous entities."

Community-based mountain tourism, in its ideal form, is initiated and operated by local mountain communities in harmony with their traditional culture and responsible stewardship[6] of the land. It also works toward balancing power within communities so that conservation and communal well being, not individual profit, are emphasised (see Table 2).

[6] Land stewardship is both a philosophy and approach, predicated on encouraging individual and community responsibility for sound natural resources management. It takes an overall landscape view, addressing the conservation needs on land which cannot be separated from human existence and commerce (Brown and Mitchell 1997; Lerner 1993; Nelson 1991).

Table 2 Planning and Assessment of Community-Based Tourism in Biosphere Reserves

PRACTICE	PURPOSE	HOW IT WORKS
National and regional development plans	Guide overall development; serve a facilitative and regulatory role	Preliminary designation of protected areas; Adopting conservation, cultural and economic policy
Biosphere Reserve Plan	Integrate adjacent protected areas; search a balance between conservation and human development	Designation of zones and functions (according to MAB UNESCO principles)
Local strategic plan for tourism	Coordinate community efforts for optimum sustainability	Plan is developed based on long-term goals for community, biodiversity, and culture and heritage
Environmental assessment impact including:	Evaluate environmental feasibility and impact	EIA techniques (*)
monitoring indicators	Help evaluate the degree of tourism success and sustainability	Parameters are evaluated in conjunction with tourism plan, project assumptions, and experience of local community members and invited experts
and field studies	Assess long-term impacts	Interviews, literature research, observation and photo documentation of different phases of tourism impact
Economic impact study	Evaluate economic feasibility and impact	Market research (questionnaires and financial analysis techniques)
Education to local communities	Enable communities to make informed choices. Brings greater self-determination	Workshops and lectures to inform community of impacts of tourism, both positive and negative, as well as alternatives

Source: Mountain Institute (1999), modified.

(*) Environmental Impact Assessment (EIA) has become established worldwide as an environmental management tool to identify, predict and evaluate the potential biological, physical, social and health effects of projects and other development actions (Harrop and Nixon 1999)

Case studies of the community-based tourism in the Carpathian Biosphere Reserves and National Parks

Ecolabelling products from the White Carpathians

Since 1991, the Environmental Partnership for Central Europe (EPCE) supports community-based and stewardship projects in the Carpathian region. EPCE is a consortium consisted of independent and self-governing foundations based in the Czech Republic, Slovak Republic, Hungary, Poland, and recently in the Ukraine. Its main goal is to help build local democracies by supporting the existing grassroots, NGOs and the local authorities. The main instruments of help are small grants, fellowship programmes, technical assistance, networking and capacity building of NGOs (Kiss 1998; Serafin, Kiss and Mitchell 1998, PdŒ 2000).

EPCE operating in Czech Republic has established a unique coalition of civic groups, local leaders, state officials, farmers, businesspeople, and foreign donors to nurture a broad range of small-scale local initiatives, that provide a strong impetus for economic development in the Bílé Karpaty (White Carpathians) Biosphere Reserve. One group of initiatives focuses on exploiting market forces to develop the local economy while also preserving the rich biodiversity of the area. An association has been established to turn produce from the more than 250 fruit species from the area into high-quality, natural products, such as juices, jams, alcohol and dried fruits, which can be sold in the region and beyond. The potential for such products has been indicated by marketing studies as well as by the experience of a local fruit farmer from the village Pitin. The farmer sells his dried fruits in specialty stores and through the mail under the “Traditions of the White Carpathians” label. “The idea is to develop a clear association with the White Carpathians region and its qualities” – explains Miroslav Kundrata of the EPCE, Brno. The brand will create, beside financial benefits, a special connection for tourists who have visited the region, and also support a sense of regional identity and pride among area residents.

(Source: EPCE, Brno).

The Bieszczady Forestry Railway in the East Carpathians Biosphere Reserve

At the turn of the nineteenth and twentieth centuries, a number of narrow gauge railway lines were created in the Carpathians. These were connected with growing demand for timber. A line from Nowy £upków to Majdan near Cisna was opened in 1898. The line appears to have been worked by the Austrian State railway but suffered much damage in the First World War and the ensuing struggles in this area. Further devastation followed during and after the Second World

War, and the railway did not reopen until the early 1950s. In 1959 a branch opened from Smolnik to RzepedŸ. There was also an extension east from Cisna reaching Przys³up in 1961 and Moczarne in 1964, having a total length of 75 km. Although primarily a forestry railway, passenger trains (or mixed) trains were run in the early years and again from 1963. Timber traffic steadily declined, and ended in 1994, mainly because of the economic reasons (collapse of the Forestry Factory in RzepedŸ). The wagons and locomotives were stored at Majdan station near Cisna. The personnel working on the railway were reduced to a minimum. In 1996, owing to the efforts of the mayor of Cisna commune, the chief forester of Cisna, as well as the director of Bieszczady National Park, the Bieszczady Forest Railway Fund was registered in Warsaw. Both parties started activity with the aim of obtaining funds to revive traffic. The same year, the Minister of Environmental Conservation, Natural Resources and Forestry declared a financial support. New sponsors made it possible to purchase new rolling stock and repair the track. The line appears to be under gradual renovation, with services in 1999 running east from Cisna to Przys³up and west to Wola Michowa.
(Source: Tourist Information Centre in Krosno and the Bieszczady Forest Railway Fund).

Carpathian Biosphere Reserve: Internet-based promotion of tourism

A significant stage in the institutional development of the Carpathian Biosphere Reserve (CBR) was the “Transcarpathian Biodiversity Protection” project. In July 1993 an agreement was signed between Ukraine and the International Bank for Reconstruction and Development on awarding a Global Environment Facility grant of 584 500 USD for biodiversity conservation in Transcarpathia region. The CBR ecological scientific research centre was opened in Rakhiv. The Museum of Mountains Ecology and the Ukraine Geographic Information centre operate there. The all-Ukrainian ecological scientific and popular magazine “Green Carpathians” is published. In addition Rakhiv is a rich cultural centre, famous for its gifted people. Folklore groups in many villages help reviving the old traditions, customs, rituals and other festive activities.
Thanks to the Internet, staff of CBR promotes local nature and heritage based tourist attractions, and organises differentiated package trips. Electronic information prepared in English, owing to the website, is available world-wide and informs about prices and tours’ content:

> *“...take part in the walking crossings along the wildest and primeval mountain ranges - Chornohora and Svydovets; visit the geographical centre of Europe and favourite hunting places of Francis Joseph, prince of the Austro-Hungarian monarchy; see the historical and cultural sights of the most interesting ethnic region of Ukraine – Hutsulschyna; taste the healthy products of the mountain sheep-breeding – vanishing relict trade of our continent”.*

(Source: Carpathian Biosphere Reserve, Rakhiv)

From waste collection to integrated sustainable development in the Retezat Biosphere Reserve

Established in 1935 Retezat National Park was recognised as the biosphere reserve forty-four years later. The park consists of deep narrow valleys, glacial plateaus and more than 80 glacier lakes. In Retezat, for dozen of years, regardless the area's status of protection, problems occurred mainly because of:

- uncontrolled tourism (especially in terms of waste disposal, unauthorised campsites, soil erosion caused by digging ditches for waste drainage, and pine tree cutting);
- overgrazing (as the territories which belonged to the former landowners inside the park were given to surrounding villages);
- absence of legally binding regulations.

In 1975, the problem concerning tourism impact was first recognised when a youth group collected large amounts of rusted cans and labelled them with slogan: "Tourist, these cans were taken from the lake by a team of people who care about the environment. Please reflect upon your behaviour".

In 1992 cleaning activities resulted in the initial collection of almost 27 tons of waste. From 1994 to 1995, as a continuing action, the UNESCO Pro Natura environmental organisation collected waste while raising public awareness concerning the problem. The Civil Service International provided practical help in the form of volunteers. At the same time, an educational program supporting sustainable tourism was developed. Since 1996, the official government position towards the national park management has improved. As the result, the Retezat NP became the subject of short-term pilot projects in the "National Biodiversity Conservation Strategy". The following actions were employed as concern tourism development:

- instalment of containers for waste collection, improvement the marking system (panels with orientation and information features, including information on the Biosphere Reservation);
- restoration and improvement of existing trails, refuges and resting sites.

As a result of several educational actions prepared with help of NGO activists, fewer tourists camp in unauthorised areas and more tourists take care of their own waste. Promising examples of the campaign were presented at the Sofia Ministerial Conference and described in the book "Best Practices for Conservation Planning in Rural Areas." In 1996, the Guard Control and Educational Center in Poiana Pelegii were fixed with the support of the Deva Forestry Department. The Romanian Rangers Association was established the same year to develop and fully use human resources to manage the forest inside and around the park. The World Bank has considered Retezat Biosphere Reserve as a possible model site to be financed by the Global Environmental Facility.

(Source: UNESCO Pro Natura, Romania).

Aggtelek Biosphere Reserve: promoting nature and culture heritage

Aggtelek, a little village in the north of Hungary, which has given name to the surrounding karst area was already among the country's famous sights in the 18th century: the huge cave opening near the village and its remarkable dripstone formations have attracted visitors ever since. Divided by the national border, the Aggtelek Karst and Slovak Karst are a geographically homogenous region extending over 60000 hectares and containing over 700 caves. The Aggtelek region became the first Hungarian national park dedicated to the protection of abiotic values, land formations and caves. In 1979 the area was designated as the biosphere reserve, following Slovensky Kras BR that received nomination two years earlier. Based on a joint proposal by Hungary and Slovakia, the cave system on the both sides of border was placed on the World Heritage UNESCO list in 1995.

The primary task of the National Park and Biosphere Reserve is to explore, protect and preserve the natural and cultural values, and to enhance regional ecotourism. Besides visiting caves tourists are attracted by walking, cycling and riding facilities, guided tours in villages, and other special events. The colour-tagged trails, indicated on the detailed tourist map, can be used for cycling and horse riding. The Hutsul stud in Josvafö offers nature horse riding, and ride in carriages or sledges.

The Village Museum of Josvafö was founded in 1994 as a joint initiative of the Szinlö Cave Tourism Ltd., the villagers, the Aggtelek National Park Directorate, and the National Board for the Protection of Historic Monuments. The objects and utensils of local industry, agriculture, and forestry are on display in the reconstructed stable. The workshops of a blacksmith, and a shoe maker are also located here. A chamber theatre was built in the barn. It can hold 50 people, and houses folk programmes, lectures on local history, and slide shows.

In 1996 the Baradla Gallery was opened to propagate the underground natural values through fine arts. In the small village Gömörszölös, the Ecological Institution Foundation launched a project, which won the award of "Tourism of Tomorrow" from the British Airways. Sights to see include a Reformed Church, old peasant houses, collection of transport and agriculture machines, a small art gallery, a wool-processing workshop, a gingerbread workshop, and organic farm. Tourist can participate in courses teaching the techniques of felt making and gingerbread making.

(Source: Event and Service Guide to the Aggtelek National Park).

Pieniny National Park: the Czorsztyn Reservoir Development Foundation

In 1997, in the close vicinity of the Pienieny National Park, the Czorsztyn Reservoir was completed by the construction of a dam on Dunajec River. The builders of the Czorsztyn dam realised, that the greatest treasure of the reservoir is the natural environment of the Pieniny NP, which in it western part adjoins the shore of the lake. For this very reason, already in the process of the dam construction, pro-ecological actions were undertaken to protect the surrounding natural environment. Construction of a sewage treatment plant led to the improvement of the water quality in the lake. Crayfish, unseen in the area for years appeared in it. To make free nesting possible for water birds an artificial Bird Island was built. Protective barriers were installed to prevent frogs from getting onto the roads. On the eastern shore of Sromowce Lake, an ecological facility was built – frog ponds – where frogs can spawn safely. With time it turned however, that efforts of the investor, aiming at the balanced development of the area, were insufficient. On the Water Reservoirs Complex Niedzica Plc. initiative, the governor of the Nowy Targ district appointed the Czorsztyn Lake Council in March 1999 as his advisory board. Apart from the above mentioned, included in the Council were: mayors of the three communes located in the vicinity of the lake, the director of the Pieniny National Park as well as the chairmen of the associations operating in the area. The Council acts as a discussion forum and a means of working out administrative decisions for furthering the development of the Czorsztyn Lake area. Not having a legal personality, the Lake Council was unable to undertake independent actions in the field of investments. Also, impossible was the use of the organisational and economic potential of the economic entities and private persons, who in preponderance understood well, that the further increase of the tourist attractiveness of the region is inseparably connected with the far protection of the Pieniny National Park. In this situation, Water Reservoirs Complex Niedzica Plc. Chairman proposed the formation of a foundation. The idea was taken up by the Nowy Targ District Office, six communes, four associations, seven companies of the commercial law as well as twelve private persons. The Czorsztyn Lake Region Development Foundation was established in September 2000. Its seat is the township of Niedzica in the commune £apsze Ni¿ne, district of Nowy Targ. The property of the Foundation was made up of the founding fund of 23 970 euro. The Revenue of the Foundation is derived from: donations, inheritance, bequests from private and legal persons; foreign aid furthering the regional development in Poland; subsidies and subventions from legal persons; revenue from the real estate and movable property; interest rates; public fund-raising event, and the economic activity conducted by the Foundation.

Statutory aims of the Foundation are realised by:

- supporting the regional social and economic initiatives, which serve the purpose of modernising and restructuring agriculture as well as activating of the rural areas of the Region;
- supporting initiatives within the scope of tourist and recreational infrastructure development;

- assisting small and medium-sized entrepreneurship;
- supporting pro-ecological initiatives as well as modern technologies aiding natural environment protection;
- assisting ventures connected with culture and education, including propagation of the cultural heritage and broadening the knowledge of social, economic and political achievements of contemporary Europe.

(Source: The Czorsztyn Lake Region Development Foundation)

Nature of frontier and the development of tourism in border regions

International cooperation in border regions has been defined by many researchers (e.g. Hansen 1983; Ratti and Reichman 1993; Blatter 1996). Border regions tend to suffer from being on the political periphery and usually are characterised by relatively low density of population and adverse balance of migration, socio-economic undergrowth and limited infrastructure (e.g. transportation and communication, accommodation and other services). Therefore, frontier regions may also suffer problems of relative inaccessibility and insufficient market for successful development. The functional approach defines borders as barriers, filters or open areas. Contact is predominant between two or more institutional (political) systems only in the last mentioned case. In the centre-periphery approach border regions are not only institutional peripheries but also frontiers in economic sense. Environment, geography and historical events shape relations between centre and periphery. Economic performance, innovative and strategic capability of the political administrative system and the existence of developed civil society are key components of international cross-border cooperation. Quality of infrastructure and of the environment depends strongly on the financial and administrative resources of the border regions. Experiences from developed European countries show that one of the striking characteristics of recent cross-border activities is a strong private sector influence. It should be stated here that not all development activities in border protected areas lend themselves to solely private or solely state run enterprises. Too often it is uncontrolled private tourist development near protected areas that leads to its degradation. Nevertheless, a combination of private and state control over tourism within protected areas can benefit both

sectors. Table 3 indicates where private sector involvement can be appropriate (Fowkes 1992).

For any analysis the following elements are important: density of the socio-economic relationships, general co-operation structures and the cross-border regional identity as potential motivation for common activities. In addition, in most border regions the environmental groups build their own international networks and institutions. They are integrated into the cross-border activities through personal contacts, workshops and projects (Klimkiewicz 1997).

Models of tourism development do not usually focus on frontier or remote regions, although a few refer to peripheral regions (Christaller 1963) and to the pattern of tourist penetration into peripheral regions (Lundgren 1989). According to Butler (1996) tourism in frontier regions has often been characterised by the following qualities. It has existed on a very small scale, drawing in a consumptive form on the natural resources of the region, for example, wildlife for hunting. It has left relatively few economic benefits, and it has not provided a very satisfactory base for employment or significant development. On the other side, the political nature of frontiers adds an element of attraction for tourists. The myth of the frontier has been a powerful one, and is still to be seen clearly today in advertisements relating to the specific forms of tourism, such as adventure tourism, where the traveller should feel that is playing the role of explorer. To tourists who are “collecting” destinations, such peripheral regions represent attractions to be acquired almost regardless of location.

Table 3 Private Sector Involvement in Protected Areas

Activities	Flora and Fauna	Infrastructure	Buildings	Retail Activities	Support Services
Ownership	n/a	n/a	n/a	yes	yes
Lease	n/d	n/d	yes	yes	yes
Management	n/d	yes	yes	yes	yes
Maintenance	x	yes	yes	yes	yes
Access Control	n/d	yes	yes	yes	yes

Marketing	yes	yes	yes	yes	yes
Construction	x	yes	yes	yes	yes

n/a = not appropriate for private sector
n/d = not desirable for private sector
yes = appropriate for private sector
x = not applicable

(Source: Fowkes 1992, modified)

The East Carpathian Biosphere Reserve: site profile

Biosphere Reserve Status

The proposal to establish Polish-Slovak-Ukrainian International Biosphere Reserve was presented at the UNESCO-MAB conference in Kiev in 1990. In November 1992, MAB accepted the “Eastern Carpathians” Polish-Slovakian Biosphere Reserve. Six years later, the application form concerning the Ukrainian party was submitted to UNESCO MAB. Finally in 1998, ECBR was completed as the first trilateral biosphere reserve in the world.

The ECBR area covers a total of 208,089.75 ha and comprises three National Parks (Bieszczady, Poloniny and Uzhanski), as well as the Ciœniañsko-Wetliñski and Dolina Sanu Landscape Parks and the Nadsanskij Regional Landscape Park (Map 2). Within the total area so established, Poland accounts for 52% share, while Ukraine and Slovakia account for 28 and 20% respectively (Table 1). In accordance with UNESCO MAB recommendations, appropriate functional zones have been demarcated (Map 3).

Natural and Cultural Premises[7]

(i) Protection of the largest in Europe complex of natural beech forest, as well as Eastern Carpathian mountain meadows known as “poloniny”;
(ii) Low population density ensuring minimal human impact on the ecosystem;
(iii) Vegetation cover changed little by management at its present stage;
(iv) Important centre of plant and animal endemism;
(v) Existence of migration routes and refuges for plants and animals (ecological corridors and primeval habitats);
(vi) Protection of the culture heritage (ethnic groups’ folklore, rural and sacral architecture);
(vii) Existence of traditional agriculture and shepherding.

Physical Features

The Eastern Carpathians are formed by sedimentary rocks (smooth flysh relief). The mountain ridges are moderately high (e.g. Tarnica 1346 m., Kremenaros 1221 m., Rozsypaniec 1273 m., Kiñczyk Bukowski 1251 m.) On the highest mountain crests, which are rather rounded and grass-covered, the process of erosion have formed picturesque tors, beside which there are scree fields. The tors occur singly or create complexes, often in the form of long ridges.
Below the peaks and crests are springs giving rise to streams, which join lower down to form river system. The mountains form so called “grid” system, which is characteristic of ridges which run parallel to the rivers. Associated with rivers and flat valleys is the occurrence of bogs.

[7] Chapters: Natural and Cultural Premises, Physical Features, Climate, Vegetation, Flora and Fauna are based on Denisiuk, Stoyko and Terray (1994), Breymeyer (1999), Denisiuk and Stoyko (2000).

Climate

The climate is mountain with continental features. July is the warmest month with average temperatures between 15,8° and 17,4°C. January and February are the coldest months (average temp. - 4°C to -7°C). Annual precipitation ranges from 800 mm at lower attitudes to 1250 mm in highest areas, with the main rainfalls in the summer months, especially in July. Snow cover depends on altitude and persists for between 90 and 140 days a year, attaining average thickness of 40-80 cm and maximum of 150 cm.

Vegetation

There are three altitude vegetation zones: the foothill zone (to 500 m. above sea level), the lower mountain forest zone (500-1000 m.) and the high mountain meadow and grassland zone (1100-1150 m.). Geomorphologic differences and associated distribution of the vegetation compose three nature and landscape zones. The valley zone includes meadows, peat-bogs and tall-herb vegetation. A particular semi-natural landscape occurs around abandoned villages. These areas were once cultivated (e.g. farmer's fields, gardens and pastures). The zone of valleys is associated with river networks. The zone of mountain forests and scrub is dominant throughout the Reserve. Forests account for the greatest share by area (more than 85%). They cover slopes to an altitude of 1150 m. and include beech, fir, sycamore, alder and spruce associations. The mountain meadows (poloniny) zone of high-mountain tall-grass and tall-herb vegetation occurs above the timberline.

Flora and Fauna

The vascular flora of this area may be assessed at c. 1100 species. More than 30 species of the recorded Eastern Carpathians plants are particularly noteworthy (e.g. *Dianthus compactus, Scorzonera rosea, Viola dacica, Centaurea kotschiana, Veratrum album, Cirsium waldsteini, Telekia speciosa* and the floristic curiosity *Helleborus purpurascens*).

The list of protected and endangered species includes 70 species. Fauna includes about 200 vertebrate species, including brown bear, reintroduced bison, lynx, wild cat, red deer, wolf, wild boar and roe deer. A particularly interesting animal is Hutsul horse, a native breed developed on the genetic basis of early progenitors. The 107 bird species include Ural owl, Alpine accentor, water pipit, golden eagle, lesser spotted eagl and three-toed woodpecker. A rarity among the reptiles is the Aesculapian snake. The invertebrate fauna includes Carpathian endemic species: beetles, caddisflies and springtails.

Culture Heritage: Ethnic Groups, Religions and History[8]

The Lemko and Boyko people are two major groups of the Walachian-Ruthenian highlanders inhabiting originally the northern slope of the Carpathian Mountains of what is now a cross-border region of Poland, Slovakia and the Ukraine. The Lemko settlements were scattered from the Poprad River in the west to the valley of the Os³awa and Laborec Rivers in the east, while they neighbours - the Boykos - lived between Solinka River and Wysoki Dzia³ ridge (Bieszczady Mts.) in the west and £omnica River in the east. Both ethnographic groups adhere to Byzantine-Slavonic Christianity. Their language is written in the Cyrillic alphabet. The mountainous nature of their homeland influenced the development of a rather unique culture. These people were autochthonous to their region, probably being in residence since the 14th century. They were willingly accepted in the Carpathians where they developed uninhabited lands and till the mid-19th century were little touched by external events. Lack of natural pastures made shepherding underdeveloped. When the Walachian shepherds abandoned their nomadic life they exchanged farming methods with the Ruthenian farmers. As a result, the highlanders cultivated the soil in lower and middle parts of slopes, and used ridge and forest clearings as pastures for

[8] Culture heritage and history of the region have been approached by many authors, however their contributions are mostly focused on national territories not discussing complexity of cross-border historical relations. In my compilation analysis the following books and articles have been used: Hoffmann and Stankovsky (1966), Podolak et al. (1985), Reinfuss (1990), Luboñski, Wielocha (eds.) (1992), Luboñski, Olszañski, Wielocha (eds.) (1993), Potocki (1993), Boglino and Henwood (1995), Sopoliga (1996), Trajdos (1996), K³os (2000), Best (2001).

sheep, goats, and later on, cattle. Between the crop fields and the forests there was a transitory strip of land used as a pasture or for meadow for undemanding crops. The level of the agriculture was very low because of limited knowledge of farming methods, shortage of tools (wooden ploughs were in use until the late 19th century) and fertilizers. Oxen were used as draft animals. In early times, both the Walachian shepherds and the Ruthenian settlers were Orthodox.

In 1596, the Catholic church in Poland and some of Orthodox clergy signed a union establishing the Uniate Church which was subordinated to the Vatican and accepted the Roman Catholic dogmas, but preserved the Orthodox liturgy. The same process appeared in Hungary, when in Uzhgorod the Orthodox clergy declared subordination to Vatican in 1646. In 1652, following the declaration the Uniate Church was established. In 1772 the Uniates were renamed Greek Catholics. Despite the transfer, by the hierarchy, of the church's allegiance in the 16th and 17th centuries from Constantinople to Rome, Lemkos and Boykos continued to have strong feelings of East Slavic unity, and their Byzantine-Slavonic Rite and their customs helped them retain their identity. This feeling was shared by many of the married parish clergy.[9]

From the second half of the 19th century to 1917, the Russian state and its official Orthodox Church carried the standard of Pan East-Slavism and Pan Orthodox-Slavonic Christianity. During this period large opposition from the Roman Catholic hierarchy which rejected the possibility of a "Catholic ", albeit Greek-Catholic, married priesthood. The Russian Orthodox Church, however, was more than willing to accept converts to Orthodoxy and Russian state money poured in. In Europe the Ukrainian movement began to be felt in Austria-Hungary, a movement which rejected Russian Pan-Slavic hegemony. In the early 20th century these two movements began to clash in the homeland, with adherents of Russia battling with Ukrainophils, while the majority of the highlanders stood aside. During World War I, the Austrians interned thousands

[9] Today, in the region many wooden and stone Orthodox and Greek-Catholic churches, from the 17th - 19th centuries, tell of a past time, culture and tradition. Wooden churches (tserkvas) are pieces of particularly valuable architecture, while most of the precious creations of folk architecture either were damaged during World Wars or were vanished because of modernization process. Fortunately, in many cases interesting sacral and farmer wooden architecture, and small objects have been removed to the regional museums. From landscape architecture point of view, the most of the wooden churches are situated above the villages sometimes even hard to access. In Poland, the most of preserved after WW II churches have been converted into places of Catholic worship.

of Russophil (Old Ruthenian) activists in concentration camps and many of them were sentenced to death on charges of spying for Russia. At that time, the Ukrainian separatists were mercilessly fought in the part of Galicia occupied by the Russians. Some major battles were fought between the Austro-Hungarian and Russian armies over the Carpathian mountain passes.[10] After World War I, the announcement by Ukrainian nationalists of establishing a sovereign Ukrainian state triggered a Polish-Ukrainian war. The Old Ruthenian Lemkos strove for a union with Russia or setting up an autonomous Ruthenian state in the territories inhabited by Lemkos. During the inter-war period, the political struggle between the two streams turned into religious antagonism. The response of Russophil Lemkos to Ukrainian nationalistic propaganda by young Greek Catholic clergy was their conversion to the Orthodox religion.

Jews were another distinct ethnic group settled in the region since 18th century. They lived autonomously within the laws of Poland and Hungary. During the 19th century, under Austro-Hungarian rule, most Jews lived in small Carpathian towns such as Lesko, Lutowiska, Ustrzyki Dolne, Baligród, Turka, Snina, and villages such as Wola Michowa, Runina.[11] This ethnic group was economically diversified. There were some wealthy Jewish landowners and businessman and a significant number of peddlers, craftsman and farmers. Many Jews profited from the growth of capitalism system in the middle of 19th century. However, at the end of 19th century approximately fifty percent of the estates in the region were owned by Jews, this ethnic group along with other nationalities coexisted relatively peacefully. (Table 12 shows an example of the population density and ethnic relations of the region during inter-war period, while Table 6 illustrates how the ethnic and religious complexity of the Eastern Slovakia has outlasted till our times).

[10] In the region, there are many small war cemeteries coming from WW I. Some of them, being preserved in memory of the oldest local people, have been not protected and are difficult to localize.

[11] There are remnants of the old Jewish cemeteries and/ or synagogues in all mentioned towns and villages. It should be noted that a new edition of a tourist map "Bieszczady i Góry Sanocko-Turczañskie" (PPWK, 2000) for the first time includes symbols indicating Jewish cemeteries, however places of the holocaust still are not described. (On the holocaust read further chapter).

Region in the Years 1939-1947

During World War II the region in question was occupied by Germans (so called *Generalna Gubernia* in Poland) and Hungarians (area of Transcarpathian Ruthenia and Snina region). Initially all the Lemko and Boyko people enjoyed privileges the German granted to the Ukrainians. Pro-Nazi Ukrainians, Hungarians and Germans were called in to administer the region while pro-Polish, pro-Soviet and Ukrainian nationalist partisan groups fought all over the area. Upon the German attack on the Soviet Union, the Nazis assisted by Ukrainians and Hungarians, arrested and transported to concentration camps people suspected of Russophil attitudes, and sent the youths to forced labor in Germany. In 1941, the Nazis began to intensify efforts for the extermination of Jews. Most Jews either went to the concentration camps or were killed on the spot and thrown in mass graves.[13] In the autumn of 1944 after heavy fights, the Soviet Army passed the main Carpathian ridge entering Slovakia and Transcarpathia. The fights have left many areas destroyed between Baligród, Radoszyce, Cisna, Solinka, Medzilaborce, Ruske and Snina. Many villages were demolished in 90%. This action also brought drastic change to the region in question. A new border between Poland, Czechoslovakia and the Soviet Ukraine was outlined and established. The oppressed people set up a guerrilla units which collaborated with the resistance. At the end of 1944, troops of the Ukrainian Insurgent Army (UPA) launched guerrilla and terrorist actions. The UPA was a well organized and disciplined military branch of the Ukrainian underground called the Organization of Ukrainian Nationalists (OUN). Between 1945 and 1948 the UPA groups holed up in the Bieszczady Mts. fighting both Soviet, Polish and Czechoslovakian communist forces.[14] In the same time Lemko and Boyko people living in Poland were forced to migrate to Soviet Ukraine. In the spring of 1947 during the military Wis³a Action, the rest of

[13] In 1941 the Nazis created a ghetto for Jews and Gypsies in Zas³aw (near Zagórz), a small town in the fork of the Os³awa and San rivers. Approximately 17000 people were murdered here; most being Jews from towns in the surrounding areas in Poland and Slovakia.

[14] UPA raided villages behind the border till April 1948, however Soviets and later on Polish Army created a depopulated zone along the border with
Czechoslovakia and San River in 1946-47,
(Hoffmann and Stankovsky, 1976).

population, perhaps 50,000 people, were forcibly dispersed in Western and Northern Poland, into the so-called reclaimed post-German lands. As a result of 1944-1947 events intensively settled before region in Poland, nine villages in the Soviet Ukraine, situated nearby the San River, and several frontier villages in Snina region were ruined.[15]

Land-use changes, Economics and Demography

Each of the national and landscape parks investigated during the course of this study is situated in a rural location. The local economies and skills are therefore generally concerned with small-scale primary production. Livelihoods in all villages concerned have been predominantly dependent on agriculture and forestry for centuries.

Poland:

After World War II, almost all inhabitants disappeared as a result of the events that took place from 1939-1947. Lack of people brought about a major change in the landscape and vegetation. New plant communities occurred in the former places of the people life and land cultivation. This resurgence of nature continued unhindered for the next 15 years, as population growth in the area was fairly minimal. First development plans for the region were prepared in 1958.[16] Abandoned towns and villages were slowly settled by the Polish repatriates from the Soviet Ukraine and farmers from nearby regions. According to K³os (2000), in 1950-56 approximately 725 families settled Lesko and Ustrzyki poviats, while 334 migrated to Sanok poviat. After poor experiences with collective farming, the regional authorities changed their approach to attract mostly individual farmers to settle them in selected villages. 1130 individual farms were sold till 1973. Therefore many of the former villages have been populated again. Table 4 illustrates present demographic situation of the area in question. Major changes in regional development brought years 1962-1970,

[15] The southern part of the Bieszczady was left practically empty and the density of the population in its northern part was sparse.

[16] M. Chilczuk, "Kierunki rozwoju Bieszczadów" and an oddity study prepared by the Voivodeship Regional Planning Agency in Rzeszów focusing on settlement development in the poloniny area (K³os 2000).

when the asphalt Bieszczady (Big and Little Loops) roads were constructed, accompanied by a network of forestry roads. Indeed the forestry industry and agriculture have had a predominant position in the regional development for a long time. It took 25 years to establish Bieszczady National Park, however, time to time, the regional and national authorities declared protection of the ecosystems, and regional tourism development.[17]

The large-scale cattle farming managed by the State Agriculture Farms (Pañstwowe Gospodarstwa Rolne and later on "Igloopol" joint stock company) and clear cutting of woods by the State Forestry lasted till the collapse of the communism system in 1989. Real changes aiming towards regional sustainable development appeared here in the 1990s. The Bieszczady National Park reached its present - sufficient for the complex nature protection - area, after several enlargements in 1989, 1991, 1996 and 1999. Since 1992, the Ciœniañsko-Wetliński and Dolina Sanu Landscape Parks became a buffer zone to the Bieszczadzki National Park.

Table 4 Basic Information on the villages situated in the Polish part of ECBR

Bieszczady National Park	Total area (in ha)	Forests (in ha)	Agricultural land area (in ha)	Population
Beniowa	1385	.	.	0
Bere¿ki	a	.	.	35
Brzegi Górne	3399,5	.	.	3
Bukowiec	2183	.	.	0
Caryñskie	1584	.	.	1
DŸwiniacz Górny (Muczne)	2230,5	1658	360	40
£okieæ	517	.	.	0
Sianki	1011	.	.	0
Sokoliki	841	669,5	162,5	0
Tarnawa Ni¿na	1884	1409	260	35
Tarnawa Wy¿na	1651,5	1318	219	0
Ustrzyki Górne	3227	.	.	91
Wo³osate	4084	.	.	26

[17] First idea to establish national park appeared in 1948. On August 4, 1973 the Bieszczady National Park was created covering only 5725 km² in separated clusters, owing to the long-lasting lobbying by the scientists, conservationists and grassroots activists. So-called "dispute for Bieszczady" has been well-and -provocatively described, and widely published by Micha³owski and Rygielski in their book titled "Spór o Bieszczady" (1975 first edition, 1986 second edition printed in 20 000 copies).

Dolina Sanu Landscape Park	Total area (in ha)	Forests (in ha)	Agricultural land area (in ha)	Population
Bukowiec	1899,6	1462	247	0
Chmiel	1226	926	247	128
Chrewt	1722	1205	238	29
Dwernik	2892	2542	253,5	232
Dydiowa	1752	1622	96,5	0
DŸwiniacz Górny (Muczne)	2228	1658	360	40
Hulskie	1657	1455	126	2
Krywe	925	657	226	2
Nasiczne	1793	1706	66	58
Polana	2130	1552	502	380
Procisne	670	.	.	39
Rajskie	643	389	101	34
Rosochate	691	609	74	0
Smolnik	669,5	302,5	329	173
Sokoliki	841	669,5	162,5	0
Studenne	649	605	42	0
Stuposiany	4999	4595	296	406
Serednie Ma³e	650	618	30	1
Tarnawa Ni¿na	1884	1409	260	35
Tarnawa Wy¿na	1651,5	1318	219	0
Tworylne	2026	1759	190	0
Zatwarnica	4106,5	3706	241	272
¯urawin	1083	750,5	267	11

Cicœniañsko-Wetliński Landscape Park	Total area (in ha)	Forests (in ha)	Agricultural land area (in ha)	Population
Balnica	911	855	12	0
Buk	1364	1212	106	52
Bystre	490,5	405,5	35	.
Cisna	956	755	113	403
Do³¿yca	1069	956	47	90
Duszatyn	1072	1037	11	.
Habkowce	556	556	0	26
Huczwice	800	657	36	0
Jab³onki	2217	1936	176	.
Jaworzec	774	721	4,5	0
Kalnica	1064,5	775	153	124
Kamionki	637	536	61	0
Karolów (Rabe)	1514	1292	76	.
Ko³onice	1246	1065	92	0
Krzywe	1086	874	67,5	53
Liszna	1803	1651	73,5	192
£opienka	1179	960,5	56	0
£ubne	422	377	43	.
£ug	633,5	535	44	0
Maniów	1234	1000	165	.
Mików	1570	1502	60	.

Polanki	657	628	11	.
Pre³uki	371	359	12	.
Przys³up	832	681	87	72
Radziejowa	442,5	321,5	68,5	0
Roztoki Górne	b	b	b	2
Smerek	3739	3293	280	108
Smolnik	1918,5	1006,5	770	.
Solinka	3112	2500	81	7
Stê¿nica	318	191	76	.
Strzebowiska	919	768,5	97	50
Sukowate	806	660	105	0
Szczerbanówka	914	857	0	0
Terka	558	351	150	.
Turzañsk	946	600,5	265	.
Tyskowa	236	136	52	0
Wetlina	6073	.	.	310
Wola Michowa	1738	1370	158	.
Zawój	622	518	90	0
¯ubracze	1644	1493	97	118

source: Kawalec (undated), S³owiaczek (1994), PBPPwK (2000), tabulated by the author.
a) area together with Stuposiany (Dolina Sanu LP)
b) area together with Solinka
.) data not available

Slovakia:

The heavy fights of 1944 caused serious damages in the area. Most of the villages were destroyed but people survived[18]. However the main task to be fulfilled was to reconstruct the villages, many inhabitants were resettled outside the region. New houses, schools, roads and bridges were built. The villages were electrified in 1958-59. The bus transportation enabled people to commute to industrial factories in the nearby towns of Snina and Humenne. In the 1950s the land was cultivated by small farmers. The communists used in their propaganda the low profitability of farmers on little fertile soils, traditional misery and the spectre of famine, and conveyed the land to subsidised state-owned farms (Jednotne Rolnicke Družstva). The process of convincing the local people to found agricultural cooperatives was not easy as, in the beginning of 1960s, only 20 % of the villages in Uličˇ – Ubla region were in JRD (Gronský 1962). The wood lodging and processing remained an important supplementary source of economic activity.

[18] In Ruske 483 inhabitants of 730 stayed without houses, Vel'ka Polana 357 of 700, Smolnik 198 of 400, Zvala 213 of 480 (Podolak et al. 1985).

In 1977 the Vychodne Karpaty Protected Landscape Area and twenty years later the Poloniny National Park were established. In the eighties, because of the Starina drinkable water reservoir construction, seven villages of the western part of the current Biosphere's area were demolished and the local people were removed for sanitary reasons (Table 5).

Table 5 Abandoned villages in Horna Cirocha catchment area

Villages	Population				Number of houses			
	1910	1961	1970	1980	1910	1961	1970	1980
Dara	154	194	185	129	33	42	41	35
Ostrožnica	176	188	168	70	36	38	36	34
Ruske	769	832	781	552	137	145	160	161
Smolnik	375	381	353	199	57	72	74	53
Starina	728	973	904	681	151	203	203	216
Velka Polana	705	680	667	322	125	131	144	156
Zvala	441	444	411	277	72	82	81	81

Source: Podolak 1985.

Construction of the Starina water reservoir changed the grassland vegetation in all evacuated villages and the surrounding area. Grasslands in the ECBR are of cultural-historical as well as of scientific and nature conservation importance. They have a high biodiversity, and are rich in endangered and rare species (Halada 2000). Now, people only live in the villages situated in the eastern and southern parts of the Reserve. Statistical data shows (Tables 7-11) that local population dramatically has grown old what caused difficult and unbalanced situation within the age structure and reproduction rate. Unemployment rate is very high. There is limited number of people with higher education degree. Industry and agriculture are troubled. Many people seek work elsewhere, therefore stimulating temporary or permanent internal and international migration. Forestry is still one of the few remaining mainstays of the local economy. However the territory should be well protected, tree cutting is continuing. Only 6.5 percent of the Poloniny National Park's area are strictly protected. According to Beckmann (2001), timber companies have gouged strips right up to the Polish frontier. Forestry companies denude the hillsides, and then pick up state subsidies for reforestation. Control of the park area is

inadequate. Six rangers oversee the 29,805 ha. The fundamental reason for what is going on in Slovakia, is the conflict between the Slovak Forest Law and forest management plans on the one hand, and nature protection on the other. The two sets of policies and legislation have opposite approaches – one adopts theory of rational forest management grounded in 19th century, while the other is based on a modern biodiversity conservation model. Ecologists argue that over the long-term, the total cost of current logging practices is clearly higher than more sustainable approaches.

Table 6 Poloniny National Park: Nationalism, Ethnic Minorities and Religious Denominations (in %)

Villages	National and Ethnic Groups				Religious Groups				
	Slovaks	Ukrainians	Rusins	Others	Roman Catholics	Greek Catholics	Orthodox	Unbelievers	Others
Kolbasov	85,2	11,2	3,6	0	2,0	92,3	0	0	5,7
Nova Sedlica	65,4	1,2	33,4	0	1,1	1,6	86,3	0	11,0
Prislop	89,0	4,5	5,5	1,0	0,9	37,3	50,0	1,8	10,0
Runina	14,2	32,6	53,2	0	1,4	1,4	95,0	0,7	1,5
Rusky Potok	63,5	29,7	6,8	0	0,6	1,8	85,8	1,4	11,0
Topola	78,0	11,0	11,0	0	1,7	94,0	1,6	1,0	1,7
Ulič	80,5	7,0	12,5	0	2,3	15,4	48,5	4,7	29,1
Uličske Krive	78,0	3,7	18,3	0	2,9	57,8	17,2	3,2	19,8
Zboj	89,0	5,8	5,2	0	0,6	11,0	41,0	1,4	46,0

source: Džomekova (1997), tabulated by the author.

Table 7 Dynamics of demographic changes within area of current Poloniny National Park

Villages	Population					Population as of 31 December 2000					Increase/ Decrease 1950 - 2000 (%)
	1950	1991	2000	of which males	of which females	Live births	Deaths	Immigration increase	Emigration	Total increase/ decrease	
Jalova	156	106	86	49	37	0	2	0	1	-3	-45
Kolbasov	358	195	136	69	67	0	4	0	2	-6	-62
Nova Sedlica	638	448	333	171	162	3	6	4	5	-4	-48
Prislop	216	110	73	43	30	0	4	0	0	-4	-70
Runina	294	141	87	31	46	1	4	1	4	-6	-70
Rusky Potok	413	219	158	70	88	1	3	0	3	-5	-62
Topola	506	292	199	98	101	3	6	0	6	-9	-61
Ulič	913	1180	1099	558	541	11	12	18	17	0	17
Uličske Krive	501	373	283	136	147	1	2	6	11	-6	-44
Zboj	850	657	478	227	251	7	9	3	13	-12	-44

source: FSU (1978), SU SR (1997), KSSU (2001b), tabulated by the author.

Table 8 Poloniny National Park: Population by Age Structure

Villages	Population	of which males	of which females	all 0-4	m 0-4	f 0-4	all 5-9	m 5-9	f 5-9	all 10-14	m 10-14	f 10-14	all 15-19	m 15-19	f 15-19
Kolbasov	168	89	79	2	1	1	2	0	2	3	2	1	9	3	6
Nova Sedlica	389	192	197	14	8	6	10	4	6	6	4	2	36	19	17
Prislop	84	46	38	0	0	0	1	0	1	1	1	0	6	4	2
Runina	117	57	60	2	0	2	0	0	0	2	2	0	4	2	2
Rusky Potok	183	86	97	3	1	2	2	1	1	7	3	4	4	2	2
Topola	241	119	122	2	0	2	4	0	4	5	4	1	9	6	3
Uličˇ	1093	559	534	52	33	19	70	39	31	95	47	48	120	63	57
Uličˇske Krive	317	147	170	13	3	10	9	3	6	16	10	6	26	15	11
Zboj	563	279	284	24	13	11	34	18	16	21	8	13	31	14	17

Villages	all 20-29	m 20-29	f 20-29	all 30-54	m 30-54	f 30-54	all 55-59	m 55-59	f 55-59	all 60 and more	m 60 and more	f 60 and more
Kolbasov	22	12	10	47	30	17	16	4	12	65	35	30
Nova Sedlica	58	37	21	107	63	44	40	12	28	118	45	73
Prislop	9	7	2	22	11	11	10	4	6	35	19	16
Runina	16	10	6	27	14	13	10	2	8	56	24	32
Rusky Potok	6	3	3	53	26	27	28	10	18	80	40	40
Topola	27	14	13	58	32	26	30	9	21	106	54	52
Uličˇ	145	80	65	388	214	174	38	17	21	185	66	119
Uličˇske Krive	45	25	20	79	42	37	35	19	16	94	30	64
Zboj	63	33	30	160	84	76	38	15	23	192	94	98

source: Džomekova (1997)

Notes: data as of 31.12.1995; Jalova village not tabulated
all = men and females, m = men, f = females

Table 9 Poloniny National Park: Employment, Unemployment; Employed Persons by Sectors

Villages	Number of employed as of 1.09.1997	Number of unemployed as of 11.4.1997	Unemployment rate in %	Number of employed beyond the region	Businessmen	of which family business	Agriculture and forestry	Industry and construction	Market and non-market services
Kolbasov	42	4	5,13	3	4	2	17	16	9
Nova Sedlica	120	33	16,02	57	4	2	40	15	3
Prislop	19	3	5,55	6	2	1	10	3	6
Runina	24	12	23,08	6	1	1	43	4	2
Rusky Potok	45	20	22,73	16	4	0	43	4	2
Topola	39	24	19,83	3	4	1	32	4	3
Ulič	400	58	24,50	60	11	7	150	200	50
Uličske Krive	92	11	13,47	18	2	1	83	0	3
Zboj	151	15	14,43	54	10	2	83	28	40

Source: Džomekova (1997), tabulated by the author.

Table 10 Poloniny National Park: Households

Villages	Village area in ha	Number of houses	of which uninhabited	Houses built				Households with		
				till 1945	1946-70	1971-80	1981-90	Gas	commune running water / sewage system	Phones
Kolbasov	1735	96	15	6	57	7	1	0	0	17
Nova Sedlica	3302	156	5	8	104	23	2	0	0	14
Prislop	618	47	14	1	35	1	1	0	0	14
Runina	2222	65	7	5	38	9	0	0	0	12
Rusky Potok	1291	86	15	2	58	3	1	0	0	13
Topola	2641	128	18	2	86	13	1	0	0	22
Uličˇ	2498	306	61	22	175	33	12	0	exists	100
Uličˇske Krive	1913	140	14	10	72	25	4	0	0	17
Zboj	5055	249	45	20	159	19	3	0	0	22

source: Džomekova 1997, tabulated by the author.

Table 11 Poloniny National Park: Education

Villages	Primary school completed	%	Secondary school completed	%	University degree	%
Kolbasov	107	67.72	49	31.01	2	1.27
Nova Sedlica	277	71.95	105	27.27	3	0.78
Prislop	68	70.10	28	28.87	1	1.03
Runina	99	73.33	36	26.67	0	0.00
Rusky Potok	119	73.91	42	26.09	0	0.00
Topola	179	71.31	70	27.89	2	0.80
Ulič	502	57.24	349	39.79	26	2.96
Uličske Krive	187	60.71	118	38.31	3	0.97
Zboj	409	71.75	153	26.84	8	1.40

Source: Džomekova 1997, tabulated by the author.
Notes: Data as of 1991, covers persons aged 15 and more.

Ukraine:

In the past, the region characterised agricultural practices with sheep and cattle breeding in particular (Kubijowicz 1926, 1935, 1937). The logging industry, that already begun in 19th century (Rygiel 1988), was notably strong after opening the *Sambor – Turka - Uzhok Pass – Uzhgorod* state railroad in 1905. Soon after, owing to the legal acts on local railways' development[19], a network of forestry narrow-gauge railroads has been established. As its result, transport was improved in the region on one side, and area of natural forests was reduced and modified into spruce monocultures on the other side.

It should be stated here, that Sthuzycia reserve situated in the heart of ECBR, at the junction of the three national parks and three political borders, has been closely and symbolically related to the history of botanical research and nature protection of the region in question. In 1908, for the purpose of preserving - rapidly vanishing - virgin Carpathian wilderness, the Austro-Hungarian Forest Administration created the reserve with area of 331,8 ha. In 1930s, in Czechoslovakia, thanks to the A. Zlatnik's efforts (Zlatnik, Zlatnik et al. 1932-1938), the reserve's territory was expanded to 552,9 ha. World War II heavily

[19] Austro-Hungarian Acts on Regional Railways from 1893, 1894 and 1910 facilitated development of narrow-gauge and other local railways by tax reducing and system of loans (Konstankiewicz 1998).

struck the region, and after the new borders had been established, nature conservation was not developed for many years in the area. Remnants of five villages are situated in the western part of the current Nadsians'kyi Regional Landscape Park between Czerwony, Sianskie, Buchok ridges, and San River. The local Boyko people were forced to leave their villages and migrate to the east in 1946, shortly after the borderline, along San River, between Poland and the Soviet Ukraine was defined in 1945. (Table 12 illustrates inter-war demographic situation of all abandoned villages formerly situated on the both sides of San River).

Table 12 Inter-war Demographic and Religious (Ethnic) Situation of the Villages Adjacent to the San River (abandoned in 1946-1947)

Villages	Population					Increase 1921 --1931 (%)
	1921	of which Catholics	of which Greek Catholics	of which Jews	1931	
Dydiowa	904	16	812	76	1236	36,7
£okieæ	392	22	365	5	522	33,2
DŸwiniacz Górny	1218	32	1015	171	1594	30,9
Tarnawa Ni¿na (*)	877	176	583	115	1065	21,4
Tarnawa Wy¿nia	614	17	542	55	813	32,4
Sokoliki Górskie	1421	247	926	244	1716	20,8
Beniowa (*) (**)	582	9	497	73	782	34,4
Sianki (*)	788	177	488	119	889	12,8

Source: Potocki (1993), Lobas (1997)

Note: *) Villages from the left side of San River, since 1946 in Poland.

**) In addition three persons belonging to the evangelical Church lived in Beniowa in 1921.

In 1974, the State Committee for Nature Protection of Ukraine brought into being the Stuzhytsky Landscape Reserve (Zakaznik) with 2 542 ha. Further changes appeared after the Ukraine, as a new independent state, emerged. In 1995, the State Administration of Transcarpathia Region created the Regional Landscape Park, being transformed into Uzhan'ski National Park two years later. Nadsians'kyi Regional Landscape Park was established in 1998.

However, since 1993 the large-scale protection of forest ecosystems in the Ukrainian Carpathians covered a significant percentage of their territory, the new-established Biosphere Reserves, National and Landscape Parks have been without the proper control and management. In 2000, an open debate among the Ukrainian ecologists and scientists concentrated on the forest economy. The question has been raised, whether the Carpathian forests were exploited wastefully (Zhyva Ukraina 2000; Bobko 2000; Sytnyk 2000; Usatenko 2000). On February 10, 2000, the President of Ukraine signed the Law on Moratorium on Forest Cutting in the Carpathians. The objective of the Law is to provide the environmentally sustainable forest management, intensify water, climate and sanitary regulations of the forests, and develop recreation and aesthetic education of the people (Zakon Ukrainy 2000). This Law sets up the complete ban on clear cutting in quasi-virgin and the old-growth forests. Such forests dominate in both the Uzhanski NP and the Nadsanski RLP.

While analysing the Ukrainian portion of ECBR, the socio-economic issues should not be neglected. Even at the first glimpse, GDP statistics show that the Ukraine, as a country, is situated a long way behind Poland and Slovakia (Table 13).

Table 13 Poland, Slovakia and Ukraine: Gross Domestic Product – a measure of living standards

Countries	GDP per capita in USD*
Poland	4078
Slovakia	3654
Ukraine	770

Source: GUS 2001.

Notes: (*) according to official exchange rates
Poland as of 2000, Slovakia, Ukraine as of 1999

As bad as the wider social situation might be, things are worse in the countryside. According to Pirozhkov et al. (1996), the economic deterioration during the 1980s accelerated the decline and up till now the rural environment is in urgently need of huge investments and infrastructure repair. For instance buildings are hastily assembled and poorly finished. Spending for maintenance

and repair is reduced. Basic residential services such as heat, water, and waste treatment are often unreliable. In Uzhanski National Park, out of all rural housing, 53% have natural gas, 49% running water / sewage system, 30% bathrooms, and there is very limited number of households with central heating (table 21). The road system is poorly developed in comparison with Poland and Slovakia. In both Nadsianskyi RLP and Uzhanski NP, 12 villages have no asphalt/cemented pavements and the roads are in an unsatisfactory state (Table 17). Existing railways lack modern technology. The infrastructure to support the distribution of goods and services by road is also largely absent. There are inadequate transport links between administrative centres and villages for ensuring standard communication access to economic, cultural and other facilities (Table 17). The absence of modern communications (only 8% of all households in Uzhanski NP have telephones, Table 21) and basic infrastructure deprive people of timely medical, fire, and emergency assistance. But just when more spending was needed, increasing energy prices, falling economics, and high inflation pinched public budgets (Pirozhkov et al. 1996). During the first decade following independence, the household crisis has deepened. Real gross domestic product fell by nearly two thirds. Inflation virtually eliminated the real value of savings and pensions. Real wages fell sharply, however the economic decline has not been shared equally by all Ukrainians. In a “grey” economy – nearly half of the size of the official economy by some estimates – many people have found remunerative jobs. But those dependent on government salaries and other benefits have suffered a sharp decline in their standard of living. In 1994, the average Ukrainian family spent 65% of its income on food, while low income families spent more than 90% (Pirozhkov et al. 1996).

Table 14 Ukrainian portion of ECBR: dynamics of demographic changes

Uzhanski National Park	Population			Increase/Decrease 1979 - 2001 (%)
	1979	1996	2001	
Kostryno	1027	1198	1171	+12
Lubnia	428	255	220	-49
Sil'	680	664	624	-8
Stavne	1722	1772	1713	-0.5
Strychava	418	241	222	-47
Stuzhycia	1525	1020	1036	-32
Volosianka	2300	1800	1786	-22
Zagorb	734	579	571	-22
Nadsians'kyi Regional Landscape Park	Population			Increase/Decrease 1979 - 2001 (%)
	1979	1989	2001	
Ben'ova	89	72	65	-27
Boberka	1607	1364	1231	-23
Dnistryk Dubovyi	552	458	447	-19
Nyzhnia Iablon'ka	3181	2843	2831	-11
Nyzhnii Turiv	583	480	501	-14
Shandrovec	1428	1365	1302	-9
Sianky	439	445	479	+8
Verkhnia Iablon'ka	2192	2217	2218	+1
Verkhnii Turiv	569	506	489	-14

source: Lobas 1997 and data collected from villages (state statistic questionnaire: forma nr. 1-selo / Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Table 15a Uzhanski National Park: Population by Age Structure

Villages	Population as of 1.01.2001	of which males	of which females	all 0-5	m 0-5	f 0-5	all 6	m 6	f 6	all 7-15	m 7-15	f 7-15	all 16-17	m 16-17	f 16-17
Domashyn	557	256	301	31	12	19	11	7	4	52	26	26	35	15	20
Gusnyi	83	35	48	4	2	2	3	2	1	2	1	1	2	1	1
Kniagynia	272	121	151	12	6	6	1	0	1	44	19	25	9	3	6
Kostryno	1171	563	608	42	25	17	18	5	13	142	56	86	32	15	17
Kostryns'ka Roztoka	521	254	267	20	10	10	9	3	6	68	35	33	20	10	10
Lubnia	220	103	117	4	2	2	3	2	1	17	7	10	8	3	5
Sil'	624	324	300	26	16	10	7	4	3	54	26	28	38	15	23
Stavne	1713	854	859	90	56	34	37	18	19	270	121	149	48	27	21
Strychava	222	96	126	6	3	3	5	3	2	24	7	17	8	3	5
Stuzhycia	1036	496	540	48	21	27	22	9	13	138	76	62	31	15	16
Sukhyi	208	102	106	13	7	6	1	1	0	9	6	3	4	3	1
Tykhyi	511	243	268	29	12	17	4	2	2	83	41	42	16	11	5
Uzhok	811	407	404	50	24	26	14	6	8	104	62	42	17	6	11
Verkhovina-Bistra	631	289	342	27	10	17	8	2	6	83	49	34	19	9	10
Vishka	900	474	426	56	28	28	18	9	9	118	70	48	21	9	12
Volosianka	1786	909	877	84	37	47	19	7	12	256	139	117	62	40	22
Zabrid'	1471	680	791	69	37	32	34	15	19	229	111	118	62	32	30
Zagorb	571	276	295	36	15	21	9	5	4	66	36	30	21	14	7
Zhornava	631	303	328	38	21	17	11	9	2	117	58	59	10	6	4

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo / Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Table 15b Uzhanski National Park: Population by Age Structure

Villages	all 18-28	m 18-28	f 18-28	all 29-54	m 29-54	f 29-54	all 55-59	m 55-59	f 55-59	all 60 and more	m 60 and more	f 60 and more	live births in 1996-2000	deaths 1999-2000	immigration increase 1996-2000
Domashyn	95	44	51	197	101	96	80	30	50	56	21	35	31	33	4
Gusnyi	12	5	7	18	11	7	2	1	1	40	12	28	4	12	11
Kniagynia	29	12	17	86	46	40	9	3	6	82	32	50	11	25	11
Kostryno	192	109	83	445	227	218	46	20	26	254	106	148	43	64	2
Kostryns'ka	74	42	32	199	101	98	21	12	9	110	41	69	20	46	14
Roztoka															
Lubnia	27	16	11	61	36	25	9	4	5	91	33	58	4	28	13
Sil'	168	70	98	208	138	70	49	20	29	74	35	39	26	46	4
Stavne	317	164	153	567	278	289	136	74	62	248	116	132	87	112	37
Strychava	23	15	8	67	34	33	13	4	9	76	27	49	6	23	3
Stuzhycia	181	89	92	330	170	160	40	17	23	246	99	147	45	70	48
Sukhyi	24	15	9	48	27	21	31	7	24	78	36	42	14	22	8
Tykhyi	55	28	27	170	92	78	25	11	14	129	46	83	29	67	11
Uzhok	123	71	52	253	138	115	35	17	18	215	83	132	44	50	12
Verkhovina-Bistra	87	45	42	180	80	100	90	40	50	137	54	83	27	51	6
Vishka	129	75	54	278	143	135	27	7	20	253	133	120	57	69	9
Volosianka	280	160	120	663	357	306	66	27	39	356	142	214	84	103	48
Zabrid'	271	117	154	461	219	242	175	80	95	170	69	101	61	82	105
Zagorb	92	50	42	183	94	89	30	13	17	134	49	85	32	41	16
Zhornava	95	49	46	233	113	120	33	16	17	94	31	63	39	38	3

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo / Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Table 16 Nadsians'kyi Regional Landscape Park: Population by Age Structure

Villages	Population as of 1.01.2001	of which males	of which females	all 0-5	m 0-5	f 0-5	all 6	m 6	f 6	all 7-15	m 7-15	f 7-15	all 16-17	m 16-17	f 16-17
Ben'ova	65	40	25	6	4	2	0	0	0	8	6	2	2	2	0
Boberka	1231	593	638	94	50	44	25	14	11	220	89	131	48	25	23
Dnistryk Dubovyi	447	228	219	36	19	17	10	6	4	75	49	26	10	6	4
Nyzhnia Iablon'ka	2831	1433	1398	241	123	118	39	19	20	425	220	205	114	60	54
Nyzhnii Turiv	501	246	255	56	27	29	7	3	4	51	23	28	18	12	6
Shandrovec	1302	646	656	93	45	48	25	21	4	217	104	113	47	29	18
Sianky	479	224	255	48	19	29	10	8	2	66	30	36	16	9	7
Verkhnia Iablon'ka	2218	1173	1045	215	119	96	43	23	20	411	217	104	111	54	57
Verkhnii Turiv	489	245	244	30	16	14	5	2	3	81	40	41	18	11	7

Villages	all 18-28	m 18-28	f 18-28	all 29-54	m 29-54	f 29-54	all 55-59	m 55-59	f 55-59	all 60 and more	m 60 and more	f 60 and more	live births in 1996-2000	deaths 1999-2000	immigration increase 1996-2000
Ben'ova	10	9	1	17	10	7	2	0	2	20	9	11	6	4	2
Boberka	176	100	76	318	176	142	59	25	34	291	114	177	93	70	34
Dnistryk Dubovyi	71	39	32	119	63	56	18	13	5	108	33	75	32	28	17
Nyzhnia Iablon'ka	548	297	251	848	481	367	107	38	69	509	195	314	246	170	106
Nyzhnii Turiv	95	52	43	140	76	64	17	11	6	117	42	75	45	32	12
Shandrovec	167	91	76	365	168	197	63	38	25	325	150	175	93	76	11
Sianky	95	44	51	164	78	86	18	10	8	62	26	36	45	33	23
Verkhnia Iablon'ka	430	250	180	606	335	271	78	39	39	324	136	188	162	101	7
Verkhnii Turiv	100	56	44	132	71	61	19	7	12	104	42	62	29	32	18

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo / Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Table 17 Uzhanski National Park and Nadsians'kyi Regional Landscape Parks: Roads and Transport

Uzhanski National Park	Total area (in ha)	Population *as of* 1.01.2001	Number of public transport connections (daily)	Distance to the regional centre (in km)	Distance to roads with hard pavement (in km)
Domashyn	1844	557	0	17	0
Gusnyi	1239	83	0	60	5
Kniagynia	1620	272	0	15	4
Kostryno	2215	1171	12	17	0
Kostryns'ka Roztoka	2743	521	3	20	0
Lubnia	1325	220	0	44	3
Sil'	1985	624	6	12	0
Stavne	7687	1713	12	35	0
Strychava	1600	222	0	10	4
Stuzhycia	6557	1036	0	30	0
Sukhyi	1223	208	0	46	3
Tykhyi	2329	511	0	48	9
Uzhok	2276	811	0	43	0
Verkhovina-Bistra	2462	631	0	45	0
Vishka	1733	900	3	25	0
Volosianka	2000	1786	6	40	0
Zabrid'	1810	1471	8	5	0
Zagorb	2235	571	6	27	0
Zhornava	1420	631	6	25	0
Nadsians'kyi Regional Landscape Park	Total area (in ha)	Population *as of* 1.01.2001	Number of public transport connections (daily)	Distance to the regional centre (in km)	Distance to roads with hard surface (in km)
Ben'ova	a	65	0	29	2
Boberka	6668	1231	1	40	18
Dnistryk Dubovyi	b	447	1	18	7
Nyzhnia Iablon'ka	4338	2831	7	18	3
Nyzhnii Turiv	3085	501	.	24	.
Shandrovec	3359	1302	1	30	16
Sianky	1083	479	4	25	0
Verkhnia Iablon'ka	3341	2218	.	25	.
Verkhnii Turiv	c	489	0	27	7

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Notes: a) Data available together with Sianky
b) together with Boberka
c) together with N. Turiv
(.) data not available or not reliable

Table 18 Uzhanski National Park: Employment, Unemployment, Employed Persons by Sectors

Villages	Population	Number of employed	Number of unemployed	Number of employed beyond the village	Employment by sectors												
					A	F	M	E	C	TR	HR	TSC	FI	PA	ED	HSW	O
Domashyn	557	136	183	120	1	15	8	2	99	2	0	3	0	0	2	3	1
Gusnyi	83	6	26	0	0	1	0	0	0	0	0	1	0	0	0	2	2
Kniagynia	272	25	36	15	0	12	0	0	0	0	0	1	0	1	3	8	0
Kostryno	1171	276	70	0	0	22	99	6	0	16	29	21	0	28	18	20	17
Kostryns'ka Roztoka	521	114	35	0	0	2	43	0	0	7	0	17	0	5	13	10	17
Lubnia	220	43	15	10	0	2	15	0	0	5	0	8	0	5	5	3	0
Sil'	624	125	194	80	5	10	0	0	76	4	0	2	2	3	15	8	0
Stavne	1713	417	171	281	10	89	0	5	178	28	0	42	0	7	47	11	0
Strychava	222	29	29	16	0	14	0	0	0	0	0	2	0	2	8	3	0
Stuzhycia	1036	130	354	71	50	18	0	0	17	5	0	2	4	5	23	6	0
Sukhyi	208	21	49	0	0	5	3	0	0	2	0	4	0	0	3	2	2
Tykhyi	511	60	169	12	0	18	3	0	0	4	0	5	0	7	18	5	0
Uzhok	811	181	43	62	0	12	17	0	0	91	0	0	0	11	26	6	18
Verkhovina-Bistra	631	46	105	15	0	3	5	0	4	11	0	1	0	6	15	1	0
Vishka	900	93	341	4	0	5	0	0	45	14	0	6	1	5	9	8	0
Volosianka	1786	156	212	72	6	15	0	0	30	45	0	2	0	6	34	18	0
Zabrid'	1741	464	107	421	0	5	245	0	49	65	5	15	5	45	15	5	10
Zagorb	571	86	232	65	0	46	0	1	0	8	0	11	0	2	7	7	4
Zhornava	631	114	230	15	0	48	8	0	0	4	6	16	0	2	8	13	9

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Notes: A) Agriculture, F) Forestry, M) Manufacturing, E) Energy sector, C) Construction, TR) Trade and repair, HR) Hotels and restaurants, TSC) Transport, storage and communication, FI) Financial intermediation, PA) Public administration, ED) Education, Health and social work, O) Other community, social and personal activities

Table 19 Nadsians'kyi Regional Landscape Park: Employment, Unemployment, Employed Persons by Sectors

Villages	Population	Number of employed	Number of unemployed	Number of employed beyond the village	Employment by sectors												
					A	F	M	E	C	TR	HR	TSC	FI	PA	ED	HSW	O
Ben'ova	65	18	9	.	0	0	0	0	0	1	0	16	0	0	0	1	0
Boberka	1231	63	451	7	0	10	4	0	7	0	0	4	0	4	22	3	0
Dnistryk Dubovyi	447	23	168	12	0	3	0	0	0	0	0	1	0	1	4	5	0
Nyzhnia Iablon'ka	2831	476	947	298	12	65	16	8	0	16	1	276	0	20	47	15	0
Nyzhnii Turiv	501	128	111	96	2	3	53	0	0	3	0	40	0	2	19	3	3
Shandrovec	1302	91	467	32	32	12	0	0	0	5	0	2	0	3	34	3	0
Sianky	479	249	46	24	0	0	0	0	0	19	0	198	0	4	24	4	0
Verkhnia Iablon'ka	2218	133	917	102	25	12	0	0	0	9	0	3	0	5	70	9	0
Verkhnii Turiv	489	128	108	98	0	8	39	0	0	3	0	66	0	1	7	4	0

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Notes: A) Agriculture, F) Forestry, M) Manufacturing, E) Energy sector, C) Construction, TR) Trade and repair, HR) Hotels and restaurants, TSC) Transport, storage and communication, FI) Financial intermediation, PA) Public administration, ED) Education, Health and social work, O) Other community, social and personal activities

Table 20 Uzhanski National Park and Nadsians'kyi Regional Landscape Parks: Agriculture

Uzhanski National Park	Number of farms	Cattle stock	Horses stock	Pigs stock	Sheep stock	Goats stock	Tractors	Transportation cars
Domashyn	130	167	15	42	3	6	4	1
Gusnyi	39	73	11	25	6	0	0	0
Kniagynia	78	134	13	97	7	9	17	7
Kostryno	343	189	4	121	0	23	30	9
Kostryns'ka Roztoka	153	151	10	70	0	2	4	3
Lubnia	115	131	6	64	2	2	4	0
Sil'	175	191	13	48	11	16	10	6
Stavne	517	366	26	161	15	23	13	5
Strychava	76	99	9	36	3	21	5	0
Stuzhycia	298	449	32	131	61	22	10	1
Sukhyi	83	135	16	56	5	6	0	1
Tykhyi	165	419	24	151	7	0	13	5
Uzhok	244	372	38	132	10	5	12	9
Verkhovina-Bistra	193	335	51	141	0	4	6	1
Vishka	300	331	32	151	47	54	16	6
Volosianka	545	496	49	138	4	3	11	0
Zabrid'	316	181	9	25	4	64	13	4
Zagorb	216	250	29	72	21	0	7	2
Zhornava	205	66	0	12	0	12	5	3
Nadsians'kyi Regional Landscape Park	Number of farms	Cattle stock	Horses stock	Pigs stock	Sheep stock	Goats stock	Tractors	Transportation cars
Ben'ova	29	42	6	8	0	0	4	0
Boberka	332	1181	157	408	13	2	49	3
Dnistryk Dubovyi	134	343	50	140	3	0	17	2
Nyzhnia Iablon'ka	714	1482	286	525	6	11	29	6
Nyzhnii Turiv	167	390	32	98	18	19	10	4
Shandrovec	354	899	208	890	28	15	4	0
Sianky	144	228	9	14	0	6	27	1
Verkhnia Iablon'ka	603	1751	265	1107	40	1	14	6
Verkhnii Turiv	154	416	30	106	20	30	3	1

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo Derzhkomstat Ukrainy 20.09.2000 nr. 308)

Table 21a Uzhanski National Park: Buildings

Villages	Number of buildings	of which private	of which made of brick	of which made of not burnt brick	of which made of wood	of which made by mix or another technique	of which with central heating	of which with running water / sewage system	of which with gas	of which with phone	of which with bathroom
Domashyn	130	130	80	47	3	0	0	21	41	5	11
Gusnyi	43	43	3	14	26	0	0	2	0	0	0
Kniagynia	83	83	0	72	10	1	0	32	25	1	21
Kostryno	314	312	99	213	0	2	12	176	231	102	142
Kostryns'ka Roztoka	153	153	4	144	5	0	0	35	43	0	10
Lubnia	98	98	4	58	36	0	0	72	5	0	5
Sil'	171	171	56	105	0	10	0	158	167	18	95
Stavne	449	444	110	220	9	110	1	270	413	69	270
Strychava	78	77	0	74	3	1	0	13	43	0	4
Stuzhycia	299	296	44	230	25	0	0	95	150	3	38
Sukhyi	94	94	3	76	15	0	0	43	16	1	9
Tykhyi	158	156	15	106	35	2	0	44	36	3	32
Uzhok	227	225	6	129	58	34	0	124	71	4	100
Verkhovina-Bistra	198	197	50	100	41	7	0	72	44	3	23
Vishka	300	299	7	169	94	30	0	153	66	10	27
Volosianka	428	426	78	268	34	48	16	278	352	.	278
Zabrid'	318	316	79	237	0	2	4	204	244	33	73
Zagorb	184	184	15	120	19	30	0	36	28	3	0
Zhornava	118	109	31	36	41	10	0	48	57	28	31

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo Derzhkomstat Ukrainy 20.09.2000 nr. 308)
Note: .) data not reliable

Table 21b Uzhanski National Park: Buildings

Villages	Number of buildings	of which built				
		till 1943	1944-1970	1971-1980	1981-1990	1991-2000
Domashyn	130	26	80	11	7	6
Gusnyi	43	10	30	3	0	0
Kniagynia	83	6	73	2	2	0
Kostryno	314	21	204	89	0	0
Kostryns'ka Roztoka	153	1	150	2	0	0
Lubnia	98	20	72	6	0	0
Sil'	171	40	71	35	24	1
Stavne	449	54	154	80	79	82
Strychava	78	13	61	3	1	0
Stuzhycia	299	28	247	14	9	1
Sukhyi	94	16	75	3	0	0
Tykhyi	158	25	121	8	3	1
Uzhok	227	9	188	15	12	3
Verkhovina-Bistra	198	1	145	43	6	3
Vishka	300	17	199	61	10	13
Volosianka	428	39	280	49	50	10
Zabrid'	318	55	236	14	8	5
Zagorb	184	0	127	50	5	2
Zhornava	118	10	52	41	12	3

Source: data collected from villages (state statistic questionnaire used: forma nr. 1- selo Derzhkomstat Ukrainy 20.09.2000 nr. 308)

An Outline of Existing Tourism Development

Poland

According to Winnicki and Niewiadomski (1999), the Bieszczady Mountains, being undeveloped and depopulated region of Poland for many years, have passed three cycle of tourism activities. The „pioneer" period was a paradise for tourists using wildlife paths instead of marked trails, slipping in tents or ruins of villages, and carrying all their equipment and food in backpacks. In 1962, the „Bieszczady Big Loop" road allowed for penetration the region by one-day mass-tourists arriving in buses. Six years later, the construction of the huge reservoir (Solina Lake) and further lakeside investments (hotels and health spas) facilitated other holiday-tourist access to the mountains. In the 90's the mass recreation-oriented tourism has been replaced by individual visitors often

requiring a higher level of service and better lodging facilities than the „pioneer explorers" of the 60's. Winnicki and Niewiadomski conclude that the transition area of the Biosphere Reserve is the proper place for tourism development and should also limit the number of visitors staying overnight in the most fragile zones (Maps: 2, 3, 4, 5). According to the Polish park's managers, the reserve is extremely attractive for qualified tourism: mountain hiking, horse back riding, mountain biking as well as bird watching, nature-oriented tourism and recreation. Winnicki and Zemanek (1998) define four tourist zones and visitors' approach:

- contemplative and educational tourism in the most fragile, valuable ecostystems ("museum of nature"),
- limited tourism investments on the culture heritage area (former villages),
- villages appropriate for rural tourism
- area of multiply services appropriate for investments (hotels etc.), sport and tourist events.

Ukraine

There was not any tourism development in the current Nadsians'ki Regional Landscape Park (Map 7) until incorporation of the area into the Biosphere Reserve system. Only the southern part of Uzh valley was used traditionally for recreation and tourism (Map 8). In the transition zone of the Uzhans'ki National Nature Park seven recreational resorts are located, but generally, the district is economically poor with a high unemployment rate.

The conservation of Boyko and Lemko ethnographic pecularities has an important cultural value. In addition to tourism activities proposed by the Polish partners, Ukrainians find opportunities in hunting, fishing, wild fruits and mushrooms picking treated as „ecologically clean business development" (MAB UNESCO 1998b). It is planned to introduce the population of rare dwarf Hutsul horse on the farms. New tourist trails are being created in both Nadsians'ki and Uzhans'ki parks to attract more visitors.

Slovakia

On the Slovak side of the region concerned (Map 6) tourism never played important role, and the area was neglected by tourism planners and researchers (Mariot 1993).

The Slovak park managers prefer limitation of tourism development in the Poloniny National Park: „the main type of recreation in the Biosphere Reserve is active recreation - walking the trails in the area" (CHKO BR undated). The most recent plan of regional tourism development was prepared in 1990. The main types of tourism were as follows: rural tourism, skiing, fishing, hunting, wild fruits and mushrooms picking.

An Overview of the geopolitical situation in the Polish-Slovakian-Ukrainian borderland

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Economic and political changes in the course of the post 1989 transition of Central and Eastern Europe (CEE) caused a new situation within domestic and international tourism of the region concerned. Travel and tourism has become a logical focus for economic development in some CEE countries as they seek to generate hard currency and sustain populations in the remaining pristine environments. Nowadays, when CEE undergoes deep political and economic transition leading to new territorial structures, shifting of decision-making process from central government to regional administration is discussed or implemented. Such macro-regions as the south eastern Poland, eastern Slovakia and western Ukraine have deeply rooted cultural and political traditions. To these regions, the development of heritage and cultural tourism of a style that appeals to West European markets comes naturally. On the other hand, such factors as changing social class differentiation and integration of tourism attractions into wider global market of products shape, among others, so called *reinternationalisation of tourism*. Some authors say that today cross-border relations are seen, in the region, much more as trade and shopping

activity rather than recreation and adventure travel. In addition, over the last decade, the rural landscapes of CEE countries have been radically modified, primarily because of changes in agriculture. The primary generator of change in the area of the environment is the international community, supporting the protected area creation. In practice, protected areas are managed for a wide variety of purposes which may include scientific research, wilderness protection, preservation of species and ecosystems, protection of specific natural and cultural features, tourism and recreation, education, sustainable use of resources, and maintenance of cultural and traditional attributes.

In nineties all key nature protection decision makers within area in question responded positively to the MAB proposal to establish transboundary East Carpathians Biosphere Reserve. This response, however, although very enthusiastic at the beginning, diminished later on, due to the fact that all investigated national and landscape parks have to deal with their own internal problems, and their representatives needs more time to formulate coherent, common policy. Transboundary protected area links can be very diversified. Often informal contacts of a personal nature and personal commitment are the basis of co-operation, which at the moment is even more important than legally based agreements. On the hand lack of legally based procedures makes that harmonisation problem occurs in ECBR. Such problem appears because different legal statuses of nature protection exist in Poland, Slovakia and the Ukraine. Problems of harmonisation concern for instance zoning, what makes cross-border tourism planning more difficult. What should be worked out in the longer term is a firmer grounding in international law for both national and International Biosphere Reserves. It should be done through an appropriate Convention. (Draft Carpathian Convention on Transboundary Biosphere Reserves was prepared in 2001).

Within the coming years, we will see how international and domestic tourism influences the East Carpathians Biosphere Reserve. For instance, whether the cross-border passages between Poland and Slovakia will be modified if the protected zones are to be changed. It is suggested that organisation of the cross-border passages for pedestrian, equestrian, bicycle could strengthen

tourist recreation sphere. On the other hand, in today's technologically oriented society (e.g. shifting from backpackers' hiking to mountain biking, paragliding or to extreme winter sports like skialpinism or heli-skiing), park managers are in need of staying current with new developments in recreation activities in order to meet or limit the needs of new oriented tourists.

Last but not least are issues related to the geopolitical situation. The new political and economic situation following the transformations of the early nineties brought to light the potentials of cross-border co-operation. The Carpathian Euroregions became the most visible example of multilateral activities, however it takes more time to understand the role of such initiatives stimulating a new sense of regional development. When talking about the accomplishments of the Carpathian Euroregion it should be stressed that its major role is to inspire the people from bordering regions to undertake joint actions and solve common problems. In addition, the Carpathian Euroregion should be seen as a very important tool of building better mutual understanding and confidence among the local inhabitants.

New agreements on bilateral or multilateral co-operation signed by the authorities of bordering provinces (or poviats) are extremely important. As results, new contacts between the business representatives and self-governments have been established[20]. It should be stressed, however, that a number of problems arise due to differences in economic development and political transformations attained by the countries and regions concerned. After years of familiarisation with the new transboundary co-operation, Poland's participation in the Carpathian Euroregion structure is still surprisingly weak. It is caused by "disorder" resulting from the new administrative reform. Needless to say that sphere of competence of the province's authorities was not defined precisely. Neither voivode (governor of the Podkarpackie provinvce) nor regional council (sejmik) has the right or obligation to subsidise the euroregional projects, and the financing from the state budget has been ceased dramatically. The local government is still tightly controlled by the centre and remain near

[20] For instance: The Podkarpacka Chamber of Commerce has set up relations with its counterparts in Lviv and Uzhgorod. The Chamber of Commerce and Industry from Rzeszow has initiated relationships with its counterpart from Uzhgorod. Mielec and Mukachevo, the sister cities, have co-operated in the nature protection, tourism and sport (Urzad Marszalkowski Wojewodztwa Podkarpackiego 2000).

powerless because relies on central government for its cash. Poland's regions live off lump transfers from the central budget, while the councils keep just a tiny share of the taxes collected in their region. Financial decentralisation will occur eventually, but slowly. As the result the cross-border co-operation failed to achieve many of its aims. In Poland many politicians and researchers justify the policy of state domination in cross-border relations as the key to political stabilisation in Central-Eastern Europe. The situation at the Polish-Slovakian-Ukrainian borderland is rather complex and complicated, caused by difficult and oftentimes tragic history. Under these circumstances, first of all, the elite of neighbouring countries should strive to improve this situation and modify internal structures of government. The development of market economy and entrepreneurship might alter negative stereotypes. Only next steps should be done at the local level by supporting bottom-up initiatives framed by political and legal regulations. In this remote region new European Union's borderline is prepared. Much of the burden of blocking illegal trade and immigration into the EU will fall on Poland, Slovakia and Hungary. New geopolitical situation rapidly reshapes existing cross-border links. Regional co-operation after 10 years of democratic transformation still is very weak and fragile. Poland's and Slovakia's economies, for a decade were growing fast, while Ukraine has been stumbling backward. The difference in income levels between Poland or Slovakia and their eastern neighbour is now much bigger than difference between for instance Poland and eastern Germany, which is about 2,5 to 1. Most probably new visa procedures will hamper cross-border tourism mobility in the region concerned[21].

Conclusion:

In 1999, the East Carpathians transboundary Biosphere Reserve (ECBR) was completed as the first trilateral reserve in the world. The Reserve's area covers 213,033 ha and comprises three National Parks and four Landscape Parks in Poland, Slovakia and the Ukraine. Within the total area so established, Poland

[21] In 2000 Slovakia applied full visa regulations to Ukrainians as the EU is demanding. Poland will apply visa regulations to Ukrainians in July 2003.

accounts for 53,5% share, while Ukraine and Slovakia account for 27,5 and 19% respectively. In accordance with UNESCO MAB recommendations, appropriate functional zones have been demarcated. Tourism based on the Reserve's natural and cultural heritage premises should become a logical focus for its regional development. Development, in addition to economic issues, encompasses social, environmental, and ethical considerations, and its measurement may incorporate indicators of poverty, unemployment and inequality.

Sustainability depends on how well the planning is formulated relative to the specific characteristics of an area's environment, economy, and society. Cross-border co-operation should be interpreted as a process, where economic performance, innovative and strategic capability of the administrative system and the existence of developed civil society are key components.

ECBR tends to suffer from being on the economic periphery and is characterised by low density of population and adverse balance of migration, socio-economic undergrowth and limited infrastructure (e.g. transportation and communication, accommodation and other services). Future regional development strategies, including the growing importance of nature and culture heritage tourism services, would progressively change the occupational profile of the local population. Taking into account a view that reorganisation of cross-border passages for pedestrian, bicycle and horseback tourists could strengthen recreation sphere of the Reserve on one side, and a fear that new border passes could become the regional transportation corridors on the other side, a compromise between two radical approaches is suggested. Creation a tourist mark of the **Transboundary Eastern Beskid Culture and Nature Heritage Area** could strenghten socio-economic situation of the region and the same time diminish human pressure in the most valuable ECBR core zone ecosystems.

Table 22 Border crossing points within the East Carpathians Biosphere Reserve and its close vicinity

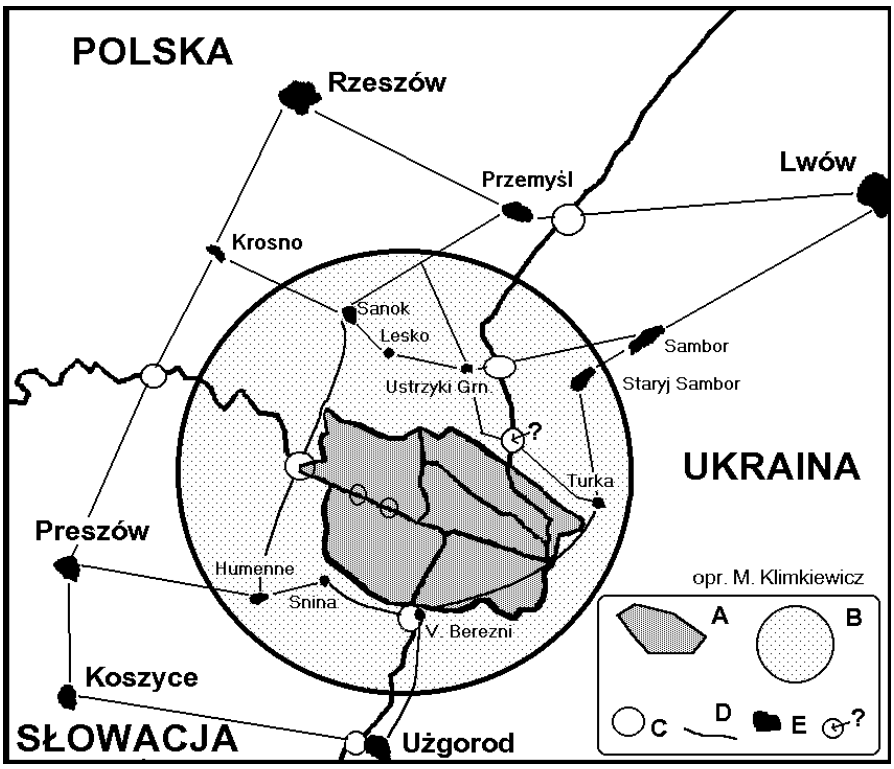
Type of border pass	Border between		
	Poland – Ukraine	Poland - Slovakia	Slovakia - Ukraine
Railway	Krościenko-Chyrów (For Polish and Ukrainian citizens only)	Łupków-Medzilaborce	-
Road (for cars, pedestrians, bicycles)	Krościenko–Smolnica	-	Ubla – Mali Bereznii
Road (pedestrians, bikers, skiers only)	-	Radoszyce-Palota	-
Road (seasonal 1.04 – 30.09) (pedestrians, bikers only)	-	1) Roztoki Górne – Ruske Sedlo 2) Balnica – Osadne	-

Note: Within ECBR only two seasonal border passes exist: Roztoki Górne - Ruske Sedlo, Balnica -Osadne. Grey boxes refer to border crossing points, that according to the author – might shape tourism development in ECBR.

Figure 3 Model of Cross-Border Tourism Development in the East Carpathians Biosphere Reserve

uzupełnić / wstwić rysunek

Map 9 Suggested Transboundary Eastern Beskid Culture and Nature Heritage Area



Legend: A - East Carpathians Biosphere Reserve, B - Transboundary Eastern Beskid Culture and Nature Heritage Area, C - border crossing points, D - main transport network, E - main cities, (?) - suggested new border crossing point

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