



**Polish-Ukrainian cross-border
co-operation strategy
for years 2007-2015**

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I INTRODUCTION

1. Objectives, field, range and methods of the study

The strategy of development and cooperation is a plan – complex document that determines the primary directions for the development of the region, taking into consideration its most important values and greatest opportunities as well as minimising the identified weaknesses and exterior threads. On the basis of identified conditions, the document determines the objectives and directions of the co-operation in the Polish-Ukrainian borderland on social, ecological, tourism and culture field. The following document is an update of “Common Polish-Ukrainian cross-border co-operation strategy for years 2005-2015” which was drawn up in 2005. That strategy involved the following regions: Lublin Voivodship, Podkarpackie Voivodship, Volyn Oblast and Lviv Oblast. The updated version includes Zakarpatska Oblast. It was compiled by the European Centre for Integration and Self-Government Co-operation “House of Europe” together with the following partnering institutions: Marshall’s Office of Podkarpackie Voivodship, Marshall’s Office of Lublin Voivodship, Volyn Oblast State Administration, Lviv Oblast State Administration and Agency for Regional Development and European Integration in Lviv, Euroregion Lutsk, and Agency for Cross-border Co-operation Development in Uzhgorod. The project actions coincide with the Strategy of the Development of Lubelskie Voivodship for years 2006-2020 and the Strategy of Podkarpackie Voivodship. Additionally, the document is consistent with the directives of cross-border co-operation programmes for the programming years 2007-2013.

Cross-border co-operation is a very important factor that allows for promotion of co-operation between neighbouring regions on a broader than national scale, and aims at the flow and exchange of information, knowledge and good practise.

The monograph comprises two basic parts. The first part, of diagnostic character, depicts development conditions in social, ecological, tourism and recreation aspects that result from the social development features of Polish-Ukrainian cross-border area, its natural and cultural values, as well as from the state of infrastructure and level of tourism. The diagnosis was aiming at identifying the existing state of affairs and main development problems. It was the basis for SWOT analysis, which allowed to indicate the opportunities and threads, as well as to identify strengths and weaknesses of the cross-border region.

On maintaining the adequate structure, the second part depicts the crucial aims and leading priorities as well as actions within the framework of priorities, on which the Polish-Ukrainian cross-border co-operation for the years 2007-2015 will concentrate.

Working methods used and the presentation of the topic result from the scale of the monograph as well as from the range of issues that was agreed upon at the beginning. All the data used in the diagnostic part include information that concern regional scale. It allowed forming a range of generalisations, which however not always present properly the situation in spatial context, especially concerning the local diversification of features characterised.

Work on the preparation of the programme document concerning Polish-Ukrainian cross-border co-operation started in 2007 with a meeting of executive committee, which consisted of representatives of each and every region, in Lviv between 13th and 14th

September 2007. Content-related meetings and seminars took place in every region of the five described in the analysis. Seminar and workshops in Nałęczów (11th -12th October 2007) aimed at determining the scope of the analysis in detail, forming working groups and preparing working schedule. In Lviv, between 10th and 12th December 2007, issues concerning the diagnostic part were discussed; whereas the meeting between 30th and 31st January 2008 in Vishky (Zakarpatska) focused on SWOT analysis. In Lutsk the second part of the document was prepared appointing the priorities and goals to achieve. The summary of works was performed in Lublin, where diagnostic and strategic parts were presented.

It is worth mentioning that consultancy actions were an integral part of all the work on the Strategy. Thanks to an appropriate flow of information, eliminating mistakes was possible as well as supplementing and verification of the preliminary versions of different parts of the document. Apart from the members of working groups, representatives of local communities from the regions under study (including public, non-government, and private sectors) were also consulted

2. Formal and programme basis

The strategy of Polish-Ukrainian Cross-border Co-operation constitutes a project which is carried out within the framework of INTERREG IIIA/TACIS CBS.

Between 2007 and 2013 the cross-border co-operation will be carried out within a framework of a separate objective of cohesion policy of “European territorial co-operation”. Separation of territorial co-operation as an individual objective of cohesion policy confirms the importance of the common enterprises launched by Union partners. The increasing importance of this type of co-operation is also confirmed by the growing funds allocated from the European Regional Development Plan. Between 2007 and 2013, 7.75 billion Euros altogether will be allocated from the European Union funds. Poland will receive an allocation of 557.8m Euros for the development of programmes within the framework of European territorial co-operation. Additionally, 173.3m Euros will be assigned by Poland within the framework of European Neighbourhood and Partnership Instrument, for the co-operation with countries that do not belong to the European Union.

The programme of Poland – Belarus – Ukraine Neighbourhood INTERREG IIIA/ TACIS CBC will be co-financed by two budget lines: on the Polish side from the European Regional Development Fund (ERDF) and on Ukrainian and Belarusian side – from TACIS CBC funds. The programme encompasses the following priorities and objectives:

Priority 1: An increase in the competitiveness of the borderland regions by modernising and development of cross-border infrastructure.

Objective 1.1: Modernisation and development of existing transportation systems aiming at facilitating region accessibility;

Objective 1.2: Development of common cross-border system for environment protection;

Objective 1.3: Development of tourism and tourism-oriented infrastructure.

Priority 2: Development of human resources and institutional forms of cross-border co-

operation, as well as improving safety on the borders of European Union

Objective 2.1: Supporting institutional cross-border co-operation and improving the capital of human resources;

Objective 2.2: Supporting local communities' initiatives.

Priority 3: Technical help

Objective 3.1: Management, implementation and supervision;

Objective 3.2: Evaluation and promoting the programme.

The main purpose of the programme of Poland – Belarus – Ukraine Neighbourhood INTERREG IIIA/ TACIS CBC is supporting the cross-border cooperation on the eastern Polish border, which is at the same time the external European Union border.

3. Data and materials used

On preparing the diagnostic part official statistical data of Poland and Ukraine were used. In most cases conducted analyses were compared with the ones from 2000-2006. However, not all the data for this timeline were accessible. The most important data were gathered in charts and inserted as an attachment to the document of Strategy. They can be a field of comparison for the future comparative researches, as well as for assessing the effectiveness of strategic objectives implementation. Here it is important to note that there are differences in the range of researched and recorded statistical information (features) between Poland and Ukraine. For example, the scope and degree of precision of many parameters in ecological sphere often made it impossible to examine the whole borderland area in a credible way.

Moreover, for diagnose the current strategic documents were used, which are in force in each of the five regions that make up the borderland. In Lubelskie and Podkarpackie Voivodships these were mostly development strategies for 2006-2020 and regional operational programmes for 2007-2013. On Ukrainian side strategic documents from the particular oblasts were used, these include the Strategy of economic and social development of Volyn Oblast for the years 2004 – 2015.

On preparing this strategy the more important European Union strategic documents were used, especially Lisbon Strategy and Gothenburg Strategy. The main aim of Lisbon strategy is to create the most dynamic and competitive knowledge-based economy in the world capable of sustainable economic growth with more and better jobs". The strategy of sustainable development of European Union called Gothenburg Strategy complement Lisbon Strategy with issues concerning regulations of management and protection of environment resources. Achieving goals of the policy established in Lisbon and Gothenburg, i.e. sustainable development of European Union, which is characterised by economic growth with a simultaneous decrease in the negative influences on the environment, demands constant commitment to balanced exploitation of natural resources and environment protection.

II DIAGNOSTIC PART

In this part the essential development tendencies of support field have been described, in order to identify in SWOT analysis of the most important principles of “Polish-Ukrainian Regional Cross-border Strategy”. The aim of the analysis was to depict the borderland as a single region. However, due to the fact that Polish and Ukrainian national statistical offices do not always possess the data concerning the same indicators, the information about separate regions or oblasts was given in parts of the analysis, where the indicators were different.

1 Social problems analysis

1.1 Social potential

1.1.1 People and the density of population

Polish and Ukrainian parts that make up the cross-border area have a lot of demographical features in common, the most distinguishing being the falling number of population, low density of population, low level of urbanization, a significant number of disabled people and aging of population.

The area of Polish-Ukrainian borderland was inhabited by 9,120.5 thousand people (in 2006). Out of these, 4270.3 thousands inhabited Lubelskie and Podkarpackie Voivodships, which constitutes 48.8% of borderland population (11.2% of population of Poland). In the Ukrainian part of the borderland, i.e. in Lviv, Volyn and Zakarpatska Oblasts were inhabited by 4850.2 thousand people, i.e. 51.2% of the analysed area (10.3% of the population of Ukraine). During 2000-2006 the number of inhabitants of the borderland displayed a decreasing tendency of about 2.1%, which was stronger on Ukrainian side (2.7%) than on Polish side (1.4%). It is worth mentioning that the situation of separate regions is diversified. In 2000-2006 the decline in the population in Lubelskie Voivodship was rather significant and amounted to 2.72%, whereas the minimal decline- 0.8%, was noted in Podkarpackie Voivodship. In Ukrainian regions the biggest population processes are seen in Lviv Oblast, where the number of population has decreased by 3.13%, however the pace of the changes was slower than Ukrainian average. In Volyn, the decline in population was 2.44% and in Zakarpatska – 1.5%.

In the total number of inhabitants there is a large percentage of disabled people. Lubelskie and Podkarpackie Voivodships were the regions of the highest rate of disability occurrence in the cross-border area, having respectively 18.5% and 15% of the total number of population. In the remaining regions the number of disabled people was at the level of about 6%. Such a low proportion of the disabled to the total number of people in Ukrainian part is due to the difference between Polish and Ukrainian criteria of determining degrees of disability. It is worth emphasising that in the Polish part of borderland the number of disabled people is decreasing, whereas in the Ukrainian part (especially in Lviv Oblast) a systematic increase in this group is noticed. There are however In the area analysed, around 62% of the total number of the disabled were the people living in the countryside and of retirement age. Disability occurs especially intensively among women from the countryside.

The cross-border area is poorly populated, and its characteristic feature is the density of

population which is lower than the average for Poland or Ukraine. In Podkarpackie Voivodship the index is similar to the national average, which is 122 people/km², and amounts to 118 people/km², whereas Lubelskie Voivodship is characterised by a much lower density of population (86 people/km²). Ukrainian oblasts are much less populated (89 people/km²) but apart from Volyn Oblast their density of population is higher than the average in Ukraine (76 people/km²): Lviv Oblast (117.8 people/km²) and Zakarpatska (97.2 people/km²). The distribution of population is uneven which is due to the non-homogenous natural environment conditions, economic character, urbanization level and to the differentiated demographic-settlement processes in the post-war period. Only 47% of the total population of cross-border area inhabits the cities, which is indicative of its rural character. The urbanization rates are much lower than the average for Ukraine (69.7%), except from Lviv Oblast (60.3%), as well as for Poland (61.3%). The lowest urbanization rate in the cross-border region is characteristic of Zakarpatska Oblast, where only 37% of the population inhabits cities, and the Podkarpackie and Lubelskie Voivodship (40.5% and 46.6% respectively). Big cities, capitals of voivodships/oblasts and cities which are seats of counties/regions are most densely populated. In terms of population, the biggest cities of the area are Lviv (735,000 people) and Lublin (353,400 people). In the other capitals of voivodships and oblasts (Rzeszów, Lutsk, Uzhgorod) the number of population ranges from 100 000 to 200 000. The density of population in the countryside is much lower than in the cities. The population rate below 40 people/km² has been noted in Poland in the following counties: Włodawa, Parczew, Lesko and Bieszczady; and in Ukraine: in most regions of Volyn Oblast (Volodimir-Volyns'kyi, Kamin' Kashirs'kyi, Kovelskyi, Lokachynkyi, Liubomyskyi, Liubeshivskyi, Manevitskyi, Ratnivskyi, Starovyzhivkyi, Turiyskyi, Shats'kyi) and in Zakarpatska- Velykobereznianskyi Oblast.



1.1.2 Natural population movement.

The dynamics of changes in population is determined by the natural population movement (births and mortalities) and by migration movement. In the recent years there has been a constant decline in the natural population growth rate in the cross-border area, which on a longer scale will influence the weakening of the regional development opportunities. The diversification of the natural population growth rates is visible not only in specific regions, but also in the city-countryside relation. Indeed, the rate of live births to 1000 inhabitants in Ukrainian borderland was of much higher values than Ukrainian average (9.45) but so were the mortality rates. In the cross-border area, especially in Podkarpackie Voivodship, the demographic dynamics was higher than the average in Poland, where the natural population growth rate was positive. A minimal natural population growth rate was also noted in Zakarpatska region (0.5). Since 2000 high values of birth rates are noted in Ukrainian oblasts, displaying a much greater diversification in terms of regional arrangement, then they do on Polish side. In the rural parts of cross-border area the live birth rate was much higher than in the cities. In the period analysed, the highest live birth rate occurred in Volyn and Zakarpatska Oblasts. Despite the higher birth rate in the cross-border area (10.2) than in the remaining regions of Poland and Ukraine, its level does not allow for net reproduction rate.

Similarly to birth rates, the mortality rates in Polish-Ukrainian cross-border region are

of the more advantageous (i.e. lower) value than in other regions of Poland and Ukraine. At the same time, contrary to the birth rates, better situation occurred on Polish side than on Ukrainian side. It is worth emphasising that the lowest mortality rate appeared in Podkarpackie Voivodship (8.5- with the Polish average being 9.7 mortalities in 1000 people). In the Ukrainian part, the highest mortality level occurred in Lviv and Volyn Oblast (15 mortalities in 1000 people). In the rural areas of the cross-border region, the mortality rates were much higher than in the cities, the highest values occurred in Volyn Oblast (18.2 mortalities in 1000 people) and Lviv Oblast (13.5).

The parameter that synthesises all other factors, that influence mortality rate is the average further life expectancy. There is a significant difference between life expectancies on Polish and Ukrainian side of the cross-border area. In recent years on Polish side life expectancy has lengthened both for men- 70.3 years (nationwide 70.9) and women 80.19 (nationwide 79.62). Inhabitants of Podkarpackie Voivodship have the longest life expectancy. In the Ukrainian part the pace of further life expectancy is much slower than the index for the Polish part of borderland and amounts to: 62.16 for men and 73.96 for women. Vast, even 10-year-long differences between life expectancies of both populations are worrying. In the most developed countries in the world they reach the level of 3 – 5 years, whereas in Central Europe – 12 years. Living and working conditions, together with lifestyle influence the above-the-average index of mortality rate in middle-aged men. This phenomenon occurs intensely in all regions. The biggest difference between women and men life expectancy appears in Volyn Oblast (especially in rural areas), the smallest – in Podkarpackie Voivodship (in urban areas).

1.1.3 Geographic mobility

Despite the decline in population immense changes in the distribution of demographic potential are noticed. Moves in search of better economic conditions, usually from countryside to the city, add to migration movement from city to countryside caused by job loss, as well as to the migration of social classes that grow richer and move from big-city residence to the countryside. The highest geographical mobility in 2006 in the cross-border region was characteristic to the 20-34 age groups with higher or secondary education; women were dominant in this migration group (57%). Since 2000 the direction of migration has changed, and the movement of urban population to rural areas has been noted. The major directions of inner migration in Poland are the following; Warsaw, Krakow, Katowice, while the Ukrainian population migrated to Lviv and Kiev above all.

The opening of some of European Union job markets, large differences in salaries between Poland and Ukraine and EU+15, higher qualifications of young people became a stimulus to making the difficult decision of emigration for employment. The highest negative net migration rate in 2006 occurred in Lubelskie Voivodship (-3.0) and Zakarpatska Oblast (-1.8). Since 2000 net migration rate has been decreasing in Podkarpackie Voivodship and in Ukrainian oblasts, whereas in Lubelskie Voivodship the value has been increasing (in 2000 net migration rate amounted to (-1.4) and in 2006 already as much as (-3.0)).

1.1.4 Age structure of population

Proceeding aging of society can be noticed in the age structure of population. Researches in age structure conducted in 2000-2006 show that an increase in population aging is more distinctive. Significant changes have been noticed into lowering the number of pre-working age population (of about 3.3%), as well as into increasing the number of population in working and retirement age (of about 1.6%). There occur significant differences in age structure between Polish and Ukrainian sides. The number of children and teenagers below 18 years old is decreasing significantly. The most advantageous age structure occurs in Podkarpackie Voivodship, where there is the highest rate of pre-working age group (22.3%), as well as in Zakarpatska Oblast (21.6%) and Lubelskie Voivodship (21%). In Lviv Oblast the rate of pre-working age group is the worst (17.6). A systematic increase in the retirement age group is observed. The retirement age group rate on Polish side was much lower than on Ukrainian side and came to 15.1% for Podkarpackie Voivodship and 16.7% for Lubelskie Voivodship (average for Poland 15.7%). On Ukrainian side the highest rate of this group of people occurs in Lviv (21.9%) and Volyn (20.8%) Oblasts, with the average for Ukraine being (20.7%).

The demographic analysis of the inhabitants of the cross-border area shows the intensification of negative phenomena: a significant decrease in population number, negative population growth rate, negative net migration rate, aging of population, an increase in the number of disabled people and a shorter life expectancy of men. Demographic situation of the area in question in view of current trends looks unfavourable, and the demographic opinions and forecasts drawn up by Statistical Offices of Poland and Ukraine show that such tendencies are probable to last till 2020. It is predicted that the number of people will decline, and the higher decrease will occur in rural areas, where the pace of the decline will be twice as fast as in urban areas. It is expected that the negative population growth rate will sustain and in the nearest future the cross-border area will still belong to the regions of the highest emigration rate. It can have serious consequences for the development of the region, especially taking into account the fact that these are young and well educated people who emigrate from the area. The analysis of future age structure of population indicates a significant increase in the number of post-productive population, with a limited number of productive-age-group members, which will lead to a substantial increase in demographic burden. This will have a strong and direct impact on health service and social security, as well as on education sector and will negatively influence job market.

1.2 Healthcare and social care

1.2.1 Population's state of health

The greatest danger for health and life of the inhabitants of cross-border region were circulatory system diseases, which on Polish side contributed to 50.05% of all deaths, and on Ukrainian side- 61.1%. Large percentage of deaths among the women from the Ukrainian part of the borderland is caused by circulatory system diseases. The second most often cause of deaths are cancer diseases, which caused 21.5% and 25.8% of deaths respectively. It is worth emphasising that malignant cancer on Polish side of the cross-border region was the cause of twice as many deaths as on Ukrainian side, with a higher death rate

of men than women. A systematic increase in tuberculosis incidence is worrying, especially in Lubelskie Voivodship, and in Lviv and Volyn Oblasts. More and more common and at the same time dangerous disease, which occurs on the Ukrainian side of the cross-border area is AIDS/HIV, with a threefold increase in incidence since 2000. Yet another important and more common occurrence is disability.

GB

1.2.2 The state of health service and its infrastructure

The level of equipment of the cross-border area in appliances and institutions of healthcare is highly diversified. The majority of health service facilities is located in the cities; therefore the people inhabiting rural areas have a more difficult access to the general practitioners. In the recent years negative tendencies of not sufficient equipment of hospitals and other healthcare facilities as well as not sufficient prevention have been noted. Due to the restructurisation of public healthcare facilities there has been a decrease in the number of these facilities as well as in the number of beds (on the Polish side of the borderland). However the number of healthcare facilities in Ukraine has sharply risen. Despite the increase in the number of healthcare facilities on the Ukrainian part of the borderland, their equipment state is much below not only European but also Ukrainian standards. As far as the number of doctors and other medical personnel – nursing staff is concerned, only in Lubelskie Voivodship has there been a decreasing tendency. It is caused by well educated medical personnel leaving for employment abroad due to economical factors. In the remaining regions of borderland an increase in the number of doctors has been noticed, with Lviv and Volyn Oblasts characterised by the highest rate of doctors per 10 000 of citizens, which does not translate to the quality of medical service provided.

The increase in the number of beds for long-term care, palliative care and protective-nursing is a positive occurrence. There are also rehabilitation facilities for disabled people. Usually, they are located close to sheltered workshops (on Polish side of borderland), and in Ukrainian part in social care houses. Despite the growing number of places as well as the number of treated patients demanding long-term and palliative care, and the rehabilitation of disabled people, the material base does not satisfy the demand for this type of service.

Indexes characterising infrastructure as well as medical service workload in the cross-border area are similar to national average. The biggest problems constitute unsatisfactory access and poor quality of medical services provided. Therefore a support for healthcare service is essential, aiming at increasing the quality of services provided, supplying the facilities with modern specialist medical equipment, modernizing the facilities as well as introducing quality control systems. At the same time special attention should be paid to forming new places in nursing-treating and nursing-protective facilities as well as in hospices, due to the growing number of elderly people, who require this type of care and not always the stationary hospital care. It is worth remembering that the predicted change in the older population will directly influence the sphere of social security. A significant increase in the number of retired people will occur together with prolonged life expectancy. The existing large number of disabled people will require forming better conditions of treatment and rehabilitation. These people demand special care, as due to education, work and rehabilitation the disabled people will become more active, becoming the driving force for the development of future

policy for disabled people. Worsening state of health of the population will demand prevention programmes as well as treatment programmes for circulatory system diseases, cancer diseases, tuberculosis and AIDS/HIV. In medical rescue services it will be necessary to form a complex integrated system of medical services complying with European standards.

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1.2.3 Social poverty

The social-economic changes of the last decade generated, as a side effect, growing unemployment rate, which has led to economic degradation of both- the individual, and the family, increasing the poverty and broadening the penury as well as their concomitant – social exclusion. A significant barrier limiting the development of modern society in the cross-border area is precisely the high poverty level. It is determined mostly by difficult material status of households, which is due to unfavourable situation on the job market and lack of possibilities of earning an appropriate income. The income structure also points out to the social character of the area. This results in the lower than Polish and Ukrainian levels of life and consumption.

Podkarpackie and Lubelskie Voivodships have for many years belonged to the areas where the average gross monthly salary is of the lowest in the country. Even though since 2000 the average remunerations have increased by 28%, in comparison with the national average it is still about 13% lower. The average gross monthly retirement or pension was 11% lower than the national average. In Poland an average monthly available income amounted to 761 PLN, whereas in Podkarpackie and Lubelskie Voivodships it fluctuated between 650-675 PLN. Since 2000 there has been a constant deepening of the disproportion between the richest voivodships of Poland and the area analysed. It is estimated that the fraction of people living in households where the level of expenses is below the social minimum in Lubelskie and Podkarpackie region is of about 60%, 12% out of which live below subsistence level, in the abject poverty.

A slightly different situation in this respect occurs in Ukrainian part of the borderland. In the period analysed there has been a fourfold increase in the average gross monthly income as well as in average gross pensions, still, despite the increase in salaries and pensions they are lower than the average for Ukraine. At the end of 2006, the average salary in Ukraine was 1002.88 UAH¹, and the lowest salary was paid to workers employed in agriculture sector and healthcare service. Ukrainian regions are characterised by diversified salary levels. On the basis of the statistical data available the level of poverty in oblasts oscillated at the level of 40%, whereas 16% of population lives in the abject poverty (Ukrainian average – 22%). Important factors influencing the level of life in Ukrainian oblasts are money transfers from abroad, coming from the emigration for employment, which are not officially made public but which significantly affect citizens' level of life.

As mentioned before, the most important factor determining population's material status is the position occupied at the job market. It means that poverty endangers especially those who are excluded from active participation in job market because of unemployment. If a family member loses the job, family's real income lowers. Thus a supplementation of the

1 Ukrainian hryvnia

family income by social security benefit is needed. Poverty syndrome affects mostly numerous families, the long-term unemployed and people with lower professional qualifications. Usually these are inhabitants of small cities and rural areas or towns which have suffered because of closing-down of large manufactures.

The major reasons for using social security benefits are: poverty, unemployment, disability, orphanage, helplessness in caring matters and long-term illness. Among the 944,600 people who benefited from social security in 2006 – for 47.1% the main reason was poverty, (4.7% of the area). In the previous year this form of aid was used by 58.7% of the total number of beneficiaries. Lack of employment does not allow for many families to exist independently. The most difficult situation occurs in the case of long-term unemployment. Because of unemployment, 47.4% (37.3% in 2003) of the total number of beneficiaries used social security benefit. Disabled people constitute a large group of social security beneficiaries; their number increases together with age. In this group a worrying factor is the large percentage of people in productive age who cannot find employment. The largest number of disabled people receiving social security benefit occurred in Lubelskie and Podkarpackie Voivodships, whereas in Ukrainian oblasts only a few dozens of people were entitled to this kind of help.

1.2.4 Social infrastructure

In the cross-border area, stationary facilities of social welfare included: social welfare houses for adults and children, children's homes, support centres including mutual aid houses. On Polish side, important forms of support for the families which are educationally insufficient are education childcare centres. Depending on the character of their activity, they have been divided into: daytime support centres, intervention centres, family centre and socializing centres. The latter two are 24-hour facilities. The places in social welfare facilities were fully used; sometimes there were many more inhabitants than the accommodation offered. Despite the visible increase in the number of social welfare facilities, the existing network satisfies only a part of the demand of region inhabitants. Access to facilities enabling social activity and support for elderly people is especially difficult. Growing social problems as well as the existing social pathologies highlight the institutional deficiencies in the area of social policy. The distribution of social infrastructure indicates that the highest density occurs in the biggest cities, whereas high demands in this region occur in rural areas.

As far as Ukrainian part of borderland is concerned social infrastructure was not fully used, both in welfare houses for adults and children's homes. It is worth mentioning that the Ukrainian social security system differs significantly from the Polish one. The condition of social infrastructure and the deficiency of social services that specialise in e.g. exiting homelessness, helping the alcohol or drug addicts, and the people who leave penal institutions. Criteria of payment and receiving a place in the social welfare facilities are also different and social welfare is provided by government administration.

In connection with observed and forecast changes in demographical structure a large increase in the number of beneficiaries can be predicted. Gradual growth in the percentage of elder people means that a large part of them will apply for support from social welfare facilities. It will demand assigning larger funds on elderly people due to their absence on

the job market. Aging brings about higher risk of different diseases and disabilities, which already calls for formation of adequate infrastructure which will satisfy the needs of this part of population (care homes, nursing homes, daytime homes, medical care facilities specialising in old-age diseases, district nurses etc.) It is worth remembering, that placing a person mentally ill, with mental disorder, or an elderly person in a social welfare house should be treated as the last resort, after all other means of providing care in the natural environment have been exhausted. This solution is much more advantageous, both for the person and for the system. Stay in a daytime home does not disrupt the bond with family, which is still responsible for the care provided. The number and profile of these facilities should be adjusted to the needs of local societies. On one hand there is a priority to develop and modernise social welfare, however on the other side the experiences of UE countries show that even the best local support system is limited and that there will always be a group of people, who will need a place in 24 hour care homes. An accurate recognition of needs and adjustment to these needs condition accuracy and effectiveness in providing help and care. Helping children and families within local societies should include educational and advisory services directed to all families. It is essential that specialised facilities for treating addictions are formed. Institutions that act within organizational structures of social welfare should actively support operations aiming at lowering the number of children and young people addicted to alcohol and drugs. Social welfare should attempt to support the family in terms of care and bringing children up in the biological family, and to move from the institutional care (i.e. children's homes) to foster families, and foster therapeutic families (to work with difficult, addicted or disabled children) which are less institutionalised and facilitate more authentic family care.

Non-governmental organizations, whose activity comprises helping people of difficult material status, are an element that contributes to social policy of the cross-border area. Their activity is positively assessed. These organisations were mainly founded in parishes; they were formed thanks to financial help of entrepreneurs and governmental and non-governmental institutions. Crucially, within the next few years, social welfare will still play a key role in the social welfare system for the region inhabitants and will develop, adjusting its institutions and tools to the demands.

1.3 Education

In the modern market economy, which impacts the development of social processes, the quality of human resources is one of the most important factors of the competitiveness of the area. Education becomes a permanent process, lasting from early youth through the whole life time, and the existence of an efficient education system and good infrastructure is decisive in its level and functional quality. Even though the systems of education in Poland and Ukraine are different, and the data concerning education on Polish and Ukrainian side are difficult to compare, it is necessary to state that both, the number of schools and the number of pupils have decreased sharply as compared with the figures from 2000, which was mostly caused by the low population growth rate. The state of affairs in terms of quality and infrastructure in the cross-border area is generally satisfactory, however regionally and spatially diversified. In the area there are 4,800 primary and secondary schools, almost 4,200

secondary schools², 147 tertiary schools and more than 412,000 students. Lviv Oblast was characterised by the largest number of students, together with Lubelskie and Podkarpackie Voivodships, many less students were found in Volyn and Zakarpatska Oblasts. Since 2000 the network of public and private higher schools has been developing dynamically. The hierarchy of higher education centres is clearly visible, with Lviv and Lublin possessing the full range of educational offer. Higher schools located in other cities of voivodships and oblasts, e.g. in Rzeszów, Uzhgorod and Lutzk, also play an important role. A lot of higher schools, including branches of higher schools, in smaller centres of the area were formed. This facilitated the access to higher education especially for young people, who could not afford studying in bigger centres.

Positive tendencies to establish academic cooperation, as well as international students' and employees' exchange between Polish and Ukrainian universities from the cross-border area have been noticed. Students exchange programme and international cooperation of higher education institutions offer good opportunities of development in Polish-Ukrainian cross-border area. More importantly, the existing cooperation is constantly developing, the good example of it being the dynamically evolving European Ph.D. College of Polish and Ukrainian Universities. The universities offer almost all specialisations and huge possibilities of development. Most of them are willing to develop cooperation with public and private sectors, the so-called triple helix cooperation (i.e. cooperation among: enterprises, scientific world (universities and R&D institutions) and government and council authorities, in order to become more competitive and innovative). The high potential of academic personnel of the cross-border area is confirmed by the fact that some of the higher schools in Lviv and Lublin received the Excellence Centre status (these are units that conduct scientific research and develop modern technologies on the world level and that use the broad international cooperation and academic background of contributing schools). Among the tertiary schools in the cross-border area – the University of Maria Curie-Skłodowska in Lublin is the signatory to the “Bologna Declaration”. Since 2005 the Volyn National University of Lesya Ukrainka began the procedure of directly joining Bologna process. The idea behind “Bologna Declaration” is the formation of a uniform system of assessment and working out an identical education system based on two-stage studies (Bachelor and Master Degrees). Introducing these solutions will allow for graduate employment on the European job market as well as for taking up scientific research in other high schools. Common higher education will be devoid of political, cultural and language divisions.

Unemployment rate is influenced by the quality and structure of education system as well as the inadequate level and subject range of education of Polish-Ukrainian borderland inhabitants'. Unemployment most often affects people with primary or vocational education (without A-level exams), whose job market position is constantly getting worse. General level of education of the cross-border region inhabitants is improving, which is especially distinctive in case of the younger generation, which is aware of the importance of education. A major problem of the overall education system of Polish-Ukrainian cross-border area is the

2 These include: upper- secondary schools, high schools, basic vocational schools, specialised secondary school, technical high school, art schools, post-secondary schools.

clash between the demand on the job market and the specialisations offered by schools and universities, which manifests itself in the deficiency of technically educated people of all levels. Social studies and humanities are preferred (especially on Polish side of the borderland) to technical and environmental studies concerning the development of innovations and modern technologies. Paradoxically, the graduates of these specialisations are the group of the highest unemployment rate. In the future, this will cause disadvantageous conditions for the development of economy based on knowledge and innovation. On Ukrainian side, young people usually choose the following specialisations: economy-administrative, technical-engineering, pedagogical and jurisprudence.

Constant education should supplement the educational possibilities of population. Unfortunately, inhabitants of cross-border region do not widely participate in trainings and other forms of continuous education. It is estimated that only 20% of the inhabitants aged between 25 and 64, participates in different forms of continuous education (in both school and non-school forms). The most common reasons for such low participation of population in constant education are the following: no motivation for constant renewal of qualifications, lack of regulations in the system of recognition of qualifications gained in constant education, and economical and geographical access to infrastructure of constant learning facilities.

1.4 Job market

Cross-border area belongs to the poorest region both in Poland and in Ukraine. It also belongs to peripheral regions which are affected by the influence of big urban centres that absorb highly qualified employees usually of young age. Additionally, mass migrations abroad in search of employment are observed. It means losing a large group of people especially predisposed for socio- economical development. Job market is characterised by a large surplus of job demand over its supply, the latter being higher in both countries despite the officially lower average unemployment rate, which points out to the high level of hidden unemployment and employment in the so-called "gray area". Agriculture sector plays an important role in the economy, compensating the surplus of labour force in the rural areas. Job market is relatively poorly prepared for challenges related with economy globalization and development of modern branches based on knowledge, which is visible through inelasticity of employment and predominance of the traditional forms of work.

Moreover, Polish access to Schengen zone (21st December 2007) will have its consequences on job market in the nearest future. Negative changes will occur in some aspects of job market in the Polish-Ukrainian cross-border area. These may include: a decrease in turnovers at border marketplaces, a decrease in currency exchange in exchange bureaus, a decrease in sales in border retail outlets or catering places, a decrease in demand for places in border hotels or inns, which will definitely generate an increase in unemployment rate in this region. On the other hand, the amount of negative occurrences, such as 'gray area' or smuggling should fall. Apart from the possibility of increasing the unemployment rate in the cross-border area, tensions in some areas of the job market can also increase. The number of Ukrainian citizens working illegally in Poland is expected to fall due to visas price rise and restrictions in their issuing system. New visa regulations will limit the possibility of employing Ukrainians, which on regional scale may disturb the job market. This results from

the fact that Ukrainians usually take up jobs, for which there is a deficiency of professionals on the Polish borderland.

1.4.1 Unemployment rate

Huge disproportions in the socio-economical development among the regions analysed are observed. There are not only differences in unemployment rates (concerning the age, sex and education of the unemployed), but also among the employed. It is difficult to assess and compare the unemployment level in the cross-border area due to the differences in its registration and diverse sources of information about the professional activity of population.

Despite the decreasing rate of unemployment on the Polish side of the cross-border area, it was still higher than the national average and amounted to 15.5% for Lubelskie Voivodship and 16.4% for Podkarpackie Voivodship (national average 14.9%). In recent years, the unemployment rate in this area was slightly geographically diversified. The highest unemployment rate (above 20%) was characteristic for counties located in the central and eastern part of Lubelskie Voivodship (Włodawa county, Chełm city county and Chełm county, Biała Podlaska county, Opole Lubelskie county), and those located in the south and eastern part of Podkarpackie Voivodship including the following counties: Bieszczady, Brzozów, Jasło, Kolbuszowa, Krosno, Lesko, Nisko, Przemyśl, Robczyce-Sędziszów and Strzyżów.

In 2006 the unemployment rate in Ukrainian part of the cross-border area was only 6.1% (Ukrainian average – 2.99%)³, in Volyn Oblast it was only 3.1, in Zakarpatska 7.0% and in Lviv- 8.3%. However, according to the International Labour Organization the unemployment rate was about 7.8%⁴, which is much more probable, because the Ukrainian data concerning unemployment rate are measured without uniform indexes. The highest unemployment rates (above 8%) was characteristic of the following districts: in Lviv Oblast- Zolochivskiyi, Starosambirskiyi, Sambirskiyi, Mykolaivskiyi and Boryslav city designated as a district; in Volyn Oblast: Volodimir-Volyns'kiyi, and in Zakarpatska: Volovetsjiyi and Mizhhirskiyi raions.

1.4.2 The structure of unemployment

The main features that differentiate the unemployed are: sex, age, place of inhabitation, education level and the type of activity of the last employer. Unemployment in the cross-border area was characterised by the constant predominance of men over women. A disadvantageous structure of unemployed has preserved on the job market for several years. Long-term unemployed are in the most difficult situation on the job market. In 2006, on the Polish side of the borderland, the number of unemployed awaiting employment for more than 12 months reached the level of 51.9%, whereas on Ukrainian side only 10.1% (in Lviv Oblast only 13%, in Volyn – 6.3%). Long-term unemployment affected mostly women and people inhabiting in rural regions as well as people without placement or with no work experience. It is important to add that the number of poorly educated people (with secondary

3 Based on the data from State Statistics Committee of Ukraine –from June 2006.

4 Data from 1st January 2006.

or lower education) within the unemployment group decreases.

The young aged 18-24 were predominant in the unemployment group on the Polish side of the borderland. However, since 2006 a decrease of this age group within the unemployed has been noticed, due to the opening of European job markets. Still, the age group between 25 and 34 is in the worst situation on the job market. Since 2000 the percentage of this group within the unemployed has increased from 30.2% to 31.2%, with the predominance of women (56.2%). This means that the majority of the registered unemployed were in the age of highest professional activity, within which there is the predominance of young people. In the timeline analysed, the number of unemployed aged 55 or more increased from 1.1% to 4.4%, which is closely connected with a low education level and unwillingness to undertake any activities leading to professional integration.

In the Ukrainian part of cross-border area unemployment structure among the population is more advantageous than in Polish part. Incomplete and incomparable statistical data concerning the structure of unemployment are responsible for such a positive state of affairs, e.g. a large number of unregistered unemployed and early, in comparison with Polish, retirement age (55 years for women and 60 for men). The highest number of unemployed in the analysed area concerned people aged 40-49, and amounted to 24%, the share of different oblasts was the following: Lviv – 31%, Volyn – 21.5%, Zakarpatska 19.5%. In the age group between 25 and 29, almost 22.9% of the population was unemployed (in Lviv – 15.1%, Zakarpatska – 21.5% and in Volyn 32.2%), whereas in the age group 15-24 only 22.5% was registered unemployed, out of this in Volyn Oblast – 16.1% and Lviv – 29%. The unemployed were predominantly male – 58.9%. The higher unemployment rate in urban rather than rural areas was noted in Volyn Oblast (60.3%) and Lviv Oblast (58.1%). A disadvantageous feature which persists in the job market of the of the cross-border area is the lowering professional activity rate as well as the decrease in the total employment rate, due to the poor quality of the labour force available on the job market

Invariably, for years the most numerous group of the unemployed are people with vocational, secondary or primary education. Graduates from colleges are also in a bad situation. A very disadvantageous occurrence (on the Polish side of the borderland) is the existence of a large percentage of unemployed graduates from higher schools (around 8%). The major reason for that is the fact that young people have problems with finding a job due to lack of work experience above all. Obtaining higher education does not guarantee finding a job. Additional qualifications are also important. In modern companies knowledge of languages, computer skills, or driving licence are a standard. Today, “soft skills” such as mobility, creativity, communication, decisiveness, readiness to permanent education are of importance. Moreover, there exists a visible inadequacy in adjustment of education specializations to job market demands. This is proved by the fact that the same specializations are invariably characterised by the highest level of unemployment for many years, and these are: economics, agriculture, pedagogy, marketing, management and law. From the point of view of professional-technological as well as engineering and production potential the large number of specialists (mainly engineers and programmers) on the Ukrainian side of the cross-border area is significant. However, the existing enterprises are not interested in developing personnel's skills or their constant education but are aiming to pursue and hire

young well-qualified personnel. Thus, it can be claimed that the job market will become similar to that of EU, where narrow specialisations are valued. The analysis conducted show that in the nearest future one should expect an increasing demand for professions connected with service sector (financial advisors, accountants), medical professionals (doctors, home nurses, elderly people caregivers), IT-related professions (computer graphic designer, database administrators).



1.4.3 Unemployment of disabled people

Although unemployment is a commonplace, the disabled are the group mostly affected by difficulties in finding a job as well as carrying it out or maintaining it. The majority of disabled people do not perform any work, but there are also people, whose disability does not make professional work impossible. For the disabled, work is not only a source of income but also the best way of social and professional rehabilitation. Since 2003, on the Polish side of the cross-border area the number of unemployed disabled people is continuously increasing (an increase of about 1.9% as compared to 2003)⁵. As far as the total number of the unemployed is concerned, the disabled people constituted a fraction of 2.1%. Men were predominant in the group of registered unemployed disabled (55.3%). In the group of unemployed disabled the majority inhabits the cities (52%). As for age, the highest number of the unemployed was aged between 45 and 54 (around 38%), 35 and 44 (around 23%), and between 18 and 24 (14.5%). In terms of education, people with vocational and primary education and those who have not completed primary education have for years constituted the largest group. The unemployment level in these groups is comparable and together they make up 70% of all the unemployed disabled in each year analysed. People with post-secondary education or with vocational education constituted a large group of 20% in each year. People with higher education together with people holding secondary education constituted a small fraction of 3.5%. Even though the highly qualified people can deal searching for job better, still the number of unemployed with higher education has been increasing in the last three years. As statistical data concerning unemployment among the disabled from Ukrainian part of the borderland are made public only in fragments, it is impossible to analyse this phenomenon in more detail. However, it is worth noticing that the unemployment among disabled people is becoming more common, and will demand taking radical measures by employment services and social welfare.

Job market is a special area, on which there meet matters concerning employment, unemployment, social policy, and on which all the problems of regional economies concentrate. Important information about insufficient structural adjustment and problems with restructuring is provided by the quantity of demand and supply of jobs, unemployment

⁵ Researches in the field of unemployment of the disabled of Lubelskie and Podkarpackie regions were launched no sooner than in 2003.

Disabled people job market analysis in Lublin Voivodship for 2003-2005, Voivodship Labour Office in Lublin, Department of Research and Analyses, Lublin, November 2006. Socio-Economic analysis and specification of Podkarpackie job market, Voivodship Labour Office in Rzeszów, 2006.

rate, age and professional structure of the unemployed people. Dynamical changes that market economy has undergone in recent years made job market demand more from employees, and this concerns: higher qualifications and new skills that will lead to increasing the quality and efficiency of work. The differentiation of situation on regional and local job markets in the Polish-Ukrainian cross-border area poses a huge challenge to cross-border cooperation. In order to use the potential of this cooperation fully, a convergence process is needed, which will lead to decreasing unemployment in the regions that are most affected by it. It is also essential to remove the barriers that hinder from the free flow of labour force. On taking any measures in this matter, the uniqueness of regulations in both countries as well as principles and agreements existing on the job markets should be considered. The following measures can be taken in order to decrease the range of unemployment and alleviate its effects (especially on the Polish side of the cross-border area): supporting the mutual economic cooperation, consultancy cooperation between job market institutions and transactors aiming to restructure the unemployment by the use of the coordinated and systemic actions.

2 Geographical environment – the state of, resources and protection.

2.1

2.2 Physiographic outline

The region analysed encompasses the western edges of Ukraine (Volyn, Lviv and Zakarpatska Oblasts) and the eastern part of Poland (Lubelskie and Podkarpackie Voivodships). The area covered was 9 775 thousand km² and was inhabited by 7.8 million people. In the northern part it is lowland, in central – upland, in the south – piedmont and mountain, and in the south-west lowland. The area lies between the Precambrian crustal East European craton (Ukrainian shield and Volyno-Podolian plate), Palaeozoic platform of West European Craton and Carpathian fold belt.

Podkarpackie Voivodship encompasses three different physiographical regions. The northern part of the region is the Sandomierz Basin, central part – Carpathian foothill, and the southern part – mountains of the Low Beskidy and Bieszczady, which are part of the fold and mantle Carpathians. The area of Podkarpackie Voivodship is characterised by a diversified lie of the land, and the difference between the highest hills and the points in the lowest places amounts to 1000m. From north-east Sandomierz Basin borders Roztocze range and Lublin Upland which both belong to Lubelskie Voivodship. Kondracki (1994) singles out Western-Volyn Upland from Lublin Upland. The northern part of Lublin Voivodship is characterised by monotonous lie of the land (Mazovian Lowland, Podlasie Lowland, and Lublin Polesie). Generally, it is lowland made of sands, gravel and clays of fluvial or glacial water origin. In the eastern part, in Polesie region, it is swamping with a lot of bogs and a number of natural lakes (Łęczyna-Włodawa Lakeland, Shats'k Lakes in Volyn Oblasts). Volyn Oblast, located in north-west part of Ukraine, in the Ukrainian Polesie, borders Lubelskie Voivodship from the east. The northern part of Volyn Oblasts is of lowland character with predominance of forestry vegetation (northern part of Ukrainian Polesie), whereas the southern part is located in Volyn-Podole Upland. A range (Volyn bar) runs across from the western part of the Oblast

to the east. The main European watershed, dividing Black Sea and Baltic Sea catchments areas runs through north and west part of the Oblast. In Lviv Oblast, the western parts of Volyn Upland, which lie in the northern part of the Oblast, transform themselves in the central part into Pobuj valley and Small Polesie (basins of Bug and Styr) and then into western part of Podole Upland and Roztocze Rawskie. There are many karst formations in Volyn and Podole Uplands. Further down to the south there is the Ukrainian Carpathian foothill together with Upper-Dniestr valley, and in the south the mountain regions of East Carpathians. Lviv oblast takes up the eastern-west edges of East European plain and the western part of the north macroslope of Ukrainian Carpathians. In the south the layout of the land is mountainous, further up to the north, in Precarpathians it changes into hilly upland– in Podole Upland, lowland in Small Polesie and Upper San plain and again into upland within the limits of Volyn Upland. The Small Polesie plain is flat in the centre and slightly wavy on the edges, surrounded by sharp faults. Podole upland is divided into parts by river and gorges, characterised by flat watersheds, steep slopes, large (60-120m) differences in heights that give this upland a hilly character. The highest points lie within the limits of Lviv Oblast: Roztochya (up to 397m), Holohora – with the highest point of the plain in the oblast - Mount Kamula (471m) and Voronyaky (up to 440m). Lviv Plateau possesses well developed karst formations. In the Precarpathians, which is separated from Ukrainian Carpathians by Dniestr valley, a lot of surface is taken up by terrace terrains. In the south-west there are Ukrainian Carpathians. Their outer belt is the Beskids, made up from parallel mountain ranges and valleys. The inner belt is made up by mountain range of watershed with Pikuj mountain (1480m) – the highest point of Lviv Oblast.

The highest point in Lviv Oblast is Pikuj mountain (1405 m) on the borderline with Zakarpatska Oblast.

Zakarpatska Oblast is situated in the south-west of Ukraine; it borders Lviv Oblast along the mountain range of Eastern Carpathians, which is a watershed; and the oblast represents the southern slop of this mountain range. The highest point of Ukraine – Hoverla (2061m) is here, as well as the geodetic sign of geographical centre of Europe. The territory of Zakarpatska oblast is characterised by diversified lie of land and landscapes. Two thirds of oblast's surface consists of mountains and hills. The mountain part of the oblast embraces three groups of asymmetric chains of very steep south-west slopes, which are cut across by many mountain river valleys. In the centre – the mountain range of Polonyna: Runa, Borzhava, Krasna, Sydovets and others. In the west there are situated mountain ranges of East Beskids and Volcanic Range, in the east – the highest mountain ranges of Eastern Carpathians: Chornohora and Maramaros that borders Romania. In the southern part there is a volcanic range - Vihorlat-Gutinian Range which develops into Zakarpatska Lowland, which is a part of mid-Danube lowland. In mountain areas there occurs a problem of small farming. Dangerous seismic phenomena are noted in the Eastern Carpathian (Zakarpatska Oblast).

The diversified climate of the cross-border region shows the features of the moderate continental climate. The Carpathian region is characterised by climatic stratification. Lviv Oblast belongs to the area of extensive humidity. The average annual precipitation amounts to 650 mm in the plain areas and up to 750-1000 mm in mountainous areas. Air humidity

and its values in different parts of the oblast depend on temperature and circulation specifics. During a year the majority of winds are western and north-western. The average annual air humidity equals 80%. The climate of Zakarpatska oblast differs from the climate of the rest of the described area. The Carpathians protect the oblast from north winds, thus the sea air of moderate latitude is predominant here; it is carried by south-west winds from the Atlantic Ocean and Mediterranean Sea. In winters the sea air is responsible for the temperatures above zero as well as for the air relative humidity. This facilitates the development of wine growing as well as gardening. Only rarely do the masses of continental air come from the east. The higher above the sea level – the lower air temperature – there occurs a vertical temperature gradient. On average it amounts to 0.8° C in every 100m of difference of height. Rainfalls are very uneven and depend on the area and season. The average annual precipitation amounts to 600-800mm in lowlands, and 1000-1500mm in mountains. In the mountain and piedmont area acid brown earths are predominant, leached and pseudo-leached soils developed on morainic sands and clays (lower lands and lowlands areas), and true brown earths as well as the fertile black earths (Chernozemic soils) have developed on loess and loess-like formations (uplands, steppe-regions and wood-steppe; mostly the Ukrainian part of the area in question). Soils of Terra Rosa type (red soils) occur in the regions of shallow level carbonate rocks.

2.3 Natural resources

2.3.1 Waters

The hydrographical network of the analysed area is well developed and belongs to the Baltic Basin (the Vistula, Bug and San Rivers with their tributaries) and to Black Sea Basin (The Dniepr, Dniestr and Danube Rivers together with their tributaries). The main European Watershed runs through Volyn and Lviv Oblasts and through Podkarpackie Voivodship. The watershed zone (generally upland) is characterised by poor hydrographical network and the occurrences of water deficiency. Lubelskie and Podkarpackie Voivodships as well as Zakarpatska Oblast belong to moderately and poorly rich in underground waters (exploitation resources 1150 hm², 503hm² and 124 hm² respectively). In Volyn Oblast underground water resources are slightly bigger (Volyno- Podolian artesian basin). Surface water phenomena are much more diversified including: river and canal network, lakes, marches and bogs.

Lubelskie Voivodship is one of the regions moderately rich in underground waters. Underground waters constitute the major source of supply of drinking water for population. Within the voivodship borders, 8 Major Bodies of Underground Water have been distinguished (entirely or in fragments). In 2005 the amount of established disposable resources of normal underground waters amounted to 129 000 m³/h (1150 hm³ in 2006). Around 75 % of it is gathered in karst formations. The reserves of surface waters are not extensive, which is due to the geological structure (cracked rocks of Karstbase). Lubelska upland and Roztocze are characterised by the lowest density of water network (also on country scale). The highest density of water network is typical for Łęczna-Włodawa Lakeland and for Dorohusk Depression. The zone of influence of Wieprz-Krzna Canal, which covers about 15% of the voivodship, is characterised by the constant deficiency of water. The total capacity of storage reservoirs is about 81hm³ (out of which 39 reservoirs have the capacity of more than 5hm³

each).

Podkarpackie Voivodship is characterised by poor resources of underground waters (exploitation resources 503 hm³) which is due to the specific geological structure. The underground waters are located in 9 Major Bodies of Underground Water. In the northern part of the voivodship there are larger resources of underground waters, and the southern part is characterised by significant deficiencies. River waters (from San, Wisłok, and Wisłoka) are of irregular flow and are more polluted in the southern part. Surface waters intakes are exploited for municipal purposes.

Basic water reservoirs of Volyn Oblast are made of rivers and underground waters of different levels. The region is characterised by a well developed river network and an abundance of water phenomena. Through the Oblast there run 132 rivers of the total length of 3415 km. Annual river outflow amounts to 5.8 billion m³. The rivers of Volyn Oblast belong to the catchments of Pripjat and Western Bug Rivers (the biggest are: Pripjat, Western Bug, Styr, Stochid, Turiiia, Vyzhivka). The density of hydrographical network is twice as high as Ukrainian average. In the region, there are 265 lakes, which cover the area of 134.2 km². The biggest and the most picturesque of these are: Svytiaz Lake, Pulemetzke Lake, Turske Lake, Lucemier Lake and Peremut Lake, Orikhove Lake, Volianske Lake, Bile Lake and Liubiazh Lake. 12 water tanks have been formed within the Oblast of total surface of 2203.4 ha and capacity of 412.2 million m³, as well as 617 ponds of the surface of 4544.3 ha and the capacity of 57.8 million m³.

The areas in the vicinity of Lviv are characterised by the presence of European Watershed, which divides the river systems of basins of Black and Baltic seas. This results in the absence of large water flows and the presence of many springs. Oblast's rivers belong to the basins of Black Sea (Dniestr and Styr) and Baltic Sea (Western Bug, San). The river network is quite dense. It consists of 8950 rivers, the total length of which is 16 343 km. Surface waters are used to a limited degree mainly to supply for fishing ponds and industry needs, and in the mountainous regions as supplies of drinking water and water for farms needs. The main water supplies in the oblast are underground waters. Predicted reservoirs of underground water amount to 3 6644 100 m/day. In Lviv oblast there are 27 water tanks of the total capacity of 324.98 million m³ and of the total surface of 84.27 km², as well as many lakes, ponds and large bogs.

European Watershed runs through Lviv Oblast. Dniestr and Western Bug both have their sources in the territory of Lviv Oblast. Generally, 4 catchments are distinguished in Lviv Oblast: Western Bug, San, Dniestr and Dniepr Rivers. In those catchments there flow 8950 rivers, the total length of which is 16343 km. Dniestr and Western Bug catchments have the biggest number of rivers (5838 and 3213 respectively). The most essential source of water supply is underground waters. Surface waters are used only to some extent, usually to supply fishponds, industry, and in mountain regions to supply drinkable water and water for agricultural purposes.

A dense river network is found in Zakarpatska Oblast, which gave the area its poetic name: "silver land". All the rivers in Zakarpatska Oblast have their origin in the high mountain of Carpathians and belong to the catchments of the largest tributary of Danube-Tisza, which is the main water artery of the Oblast. Average density of river network is 1.7 km/km². There

are 9429 rivers in the Oblast, the total length of which is 198 600 km. These are rather small rivers (apart from: Tisza, Uzh and Latorica Rivers), not longer than 100 km. Tisza, Latorica and Uzh are cross-border rivers: Tisza crosses the Ukrainian-Hungarian border, Latorica and Uzh- Ukrainian-Slovakian border. In the Oblast there are 9 water tanks and 59 ponds. The total capacity of all the artificial water tanks amounts to 60.5 million m³. There are 32 lakes all of which have Alpine character. The predicted water reservoirs of underground waters in the Oblast amount to 400 million m³, out of which 124 million m³ have been approved.

2.3.2 Natural resources

The most important natural energy resources in the cross-border area are: bituminous coal, natural gas and petroleum. Apart from that there are significant seams of copper ores (Volyn Oblast), polymetallic ores (Lviv and Zakarpatska Oblasts), alunite ores, mercury, baryte, gold and nickel ores (Zakarpatska). Non-metallic resources include: rock-salt (Lviv and Zakarpatska Oblasts), native sulphur (Lviv Oblast and Podkarpackie Voivodship). The existence of large resources of chalk and marls, limestone, sandstone, marble and sands (including glass sand) and kaoline plays an important role especially in view of the development of cement-limestone and building industries.

The most important resource in Lublin area is bituminous coal (Bogdanka region). On Ukrainian side coal seams are found in Lviv-Volyn basin, in the borderland between Lviv and Volyn Oblasts. Healing waters of Lublin are only exploited in the spa in Nałęczów. These are ferrous hydrocarbonate calcium-magnesium waters used in treating circulatory system diseases. Since 1998 the resources of healing waters in Nałęczów have not changed and amount to 96 m³/h. Healing waters of Krasnobród, Wólka Biska and Osuchy could potentially be exploited for spa medicine.

Podkarpackie Voivodship does not abound in natural resources. Energy resources, natural gas and petroleum are both exploited. Petroleum seams stretch on a 160-km-long and 15 to 40-km-wide strip between Ustrzyki Dolne and Gorlice. Natural gas seams are located next to petroleum seams as well as in the vicinity of Przemyśl, Jarosław, Przeworsk, Lubaczów, Rzeszów, Dębica, Ropczyce, Łańcut, Sokołów and Leżajsk. Sulphur seams exist in the northern part of Sandomierz basin, in the vicinity of Tarnobrzeg and Machów, as well as in the neighbourhood of Basznia Górna. Native sulphur exploitation has been abandoned due to economical factors. Gypsum and diatomite deposits are not industrially exploited. Mineral waters and turfs deposits constitute the basis for the development of spa medicine. Within the group of mineral waters healing waters are distinguished, the existence of which has been confirmed in the vicinity of Iwonicz and Rymanów, and which are used in healing treatment and in the production of table water, healing and cosmetic-bath salt. Hydrocarbonate-sulphide waters exist in Komańcza region, and in Baligród-unique in Europe hydrocarbonate-chloride-sodic waters.

In Volyn Oblast there are 18 types of mineral ores, which include: bituminous coal, natural gas, turf, germanium, glass sands, mineral waters, materials used in cement industry, copper ores, phosphorites and others. In Volyn Oblast there are 9

deposits of 4 different types mineral waters (chloride-sodium, sodium sulphate and hydrocarbon-chloride-calcium waters), 4 ores have been exploited, The deposits of mineral waters allow for the development of spa activity in the rayon of Shats'k (e.g. Lisova Pisnya), as well as in Ratne, Kivertsy and Kovel. Moreover, 33 deposits of peat can also be used for this purpose. In majority these are sulphur gypsum turfs of mineralisation 2-3 g/l, that are situated in the rayons of: Luboml, Horokhiv, Kivertsy and Manevivhi.

In Lviv Oblast the following natural resources are found: bituminous coal, natural gas, petroleum, native sulphur, turf, ozokerite, chloride and potassium salts, materials used in cement industry, limestone, slate, marl, and clay for building materials production. Ozocerite (mineral wax) is a very rare ore. In terms of resources, the biggest deposit of this ore is found in the only centre in the oblast – in Boryslaw. The special wealth of the Oblast consists in large resources of mineral waters, which are the basis for the development of sanatorium centres. Regions of Truskavets and Schodnica are famous from the unique healing waters of “Naftusya” type. In Lviv Oblast mineral waters exist in 19 reservoirs (out of which 17 have been exploited), and their exploitation efficiency has been determined at the level of 1314 m³/ 24 hours. There are 6 natural medicine spas.

In Zakarpatska Oblast 217 deposits have been discovered, including more than 30 natural resources, such as polymetals (which are rare in Ukraine), alunite, pyrites, liparites, celolite, kaolin, rock-salt. Within the limits of the oblast there are ore and non-ore minerals: metal and non-metal (mining-smelting, mining-ore, non-ore, building minerals), fuels (gas, coal and turf), mineral and thermal waters. Only in Zakarpatska deposits of resources of utmost importance are found: gold, silver, zink, lead and germanium. The important baryte ores are also found here. Zakarpatska possesses a large resources potential for decorative and building industries (marbles, limestone, decorative tufa, andesite and andesito-basalts etc.). Zakarpatska Oblast ranks the highest in Ukraine in the quality and quantity of mineral waters. Almost all the types of the world best-known mineral waters can be found in the oblast: hydrocarbon sodium, hydrocarbon sulphate, calcium-magnesium, sulphate, arsenic and silicon. In total 62 reservoirs have been found, of 30 types, and 400 kinds of waters which have large potential healing properties. In Zakarpatska Oblast thermal waters have been found, which have good prospects for use. Data concerning the deposits, temperature and quality of water at the outlet (deposits in Berehiv, Kosyn, Zaluzh, Tereblans'k, Velatinsk, Paladsk, Velko-Baktiansk and Uzhhorod) allow for discussion about using the geothermal energy for producing energy in the region.

2.3.3 Woods

Average woodiness of the cross-border area amounts to 35.4% however woods distribution is uneven. The most wooded terrains are the Carpathians, where the most valuable ecosystems are found. Regions of fertile soils are usually deprived of larger forest covers (especially the upland areas). The health of the forests is generally satisfactory; however inappropriate forest economy (especially in the Ukrainian part) may pose a serious

problem.

The woodiness of Lublin Voivodship equalled 22.5% in 2006. The biggest forest complexes occur in the southern part of the Voivodship (Solska forest, forests of the Roztocze), as well as in the northern part (forests close to: Łuków, Parczew, Sobibór and Włodawa). As far as environmental values are concerned, the most valuable forest complexes are the woods of Roztocze and Solska forest). The forests are mostly of coniferous and mixed-types: (49% and 45% respectively). The major species making up the forests are: pines and larches (69%), oaks (13%), birches (7%) and alders (6%). Average wood resources in the forests of the Voivodship have increased in recent years and are estimated at about 201 m³/ha.

Forests areas in Podkarpackie Voivodship constitute about 37% of its surface. The biggest and most valuable forest complexes occur in Bieszczady and Low Beskidy as well as in the northern part of the voivodship (fragments of Sandomierski and Solska forests).

Volyn Oblast belongs to the most forested regions of Ukraine. The basic forest complexes occur in the following raions: Manevystkyi, Kamin'Kashyrs'kyi and Shats'k, where the forest area covers 58-48 % of the total surface of these regions. The majority of forests are coniferous, which take up 58% of the surface. For soft- and hardleaved species take up respectively 26% and 16% of the surface.

Lviv oblast is situated in the area of broadleaf and coniferous forests. The biggest forest complexes of Lviv Oblast are found in the Carpathians, as well as in the western and northern part of Lviv Land. At the Small Polesie the majority of forests are pine and pine-oak, at Roztocze – beech-pine and hornbeam-beech, at Podolsk upland beech-oak and hornbeam-oak, at Podkarpackie – beech-oak-fir and in the Carpathians – beech-oak-fir, beech and spruce-fir forests. The basic species that make up forests are: pine, spruce, fir, beech and oak. In the Carpathians 55% of the area is covered by forests, and within the last hundreds of years the forest line elevated for about 200-400 m, which has had negative impact on the environment of the whole region.

Zakarpatska Oblast is the most forested region of Ukraine. Woodlands cover 57% of the whole area of the oblast (51% of these are forests). As far as the wood resources are concerned, which are estimated for about 200 million m³, the oblast also ranks the highest in Ukraine. Climate conditions and distinctive vertical striping decides upon the zonal spreading of forest greenery and upon the species make up of tree stand. The basic genres that make up the forests in Carpathians are: beech (59%), spruce and fir (32%), oak (7.5%), as well as: ash tree, sycamore, wych elm and others. In the plain areas (100-350 m above sea level) the common oak, hornbeam, large leaved linden, manna ash, birch. The piedmont (300-450m) is represented by sessile oak and beech. In the mountain zone (400-1100) beech and fir are predominant as well as ash, maple-sycamore, and accompanying genus: small leaved lime, yew and spruce. In the high mountain zone (700-1650) beech and spruce are predominant, sometimes also gray alder, maple-sycamore, yew with small leaved lime, wych elm, rowan, larch and Swiss stone pine. Sub-alpine zone (1280-1850) is a tortuous stripe in which there coexist: green alder, mountain pine and juniper.

The largest areas of old ecosystems have survived in Zakarpatska, now recognized



as world natural heritage. Primeval beech forests have been included on UNESCO list of World Cultural and Natural Heritage. These forests occur primarily in Carpathians Biosphere Reserves (14.6 thousands ha, out of which 77% are the primeval beech forests, 16% primeval spruce forests and 7% - other primeval forests) and Uzhansky National Nature Park (3 thousand ha primeval beech forests).

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2.4 The state of environment and environmental hazards of natural and anthropogenic character

2.4.1 Atmospheric air

The major sources of atmospheric pollution at the region under study are the following: processes of burning fuels at CHP plants, thermal power stations and local boiler houses, which, in majority, use bituminous coal as fuel; technological processes in industry, transport and individual hearths. On Ukrainian side there are no uniform data to compare the pollution emitted to the air. The biggest amount of gas pollution (excluding CO₂) is produced in: Lublin Voivodship, Lviv Oblast, Volyn Oblast and the smallest one in Zakarpatska Oblast and Podkarpackie Voivodship. As far as dust pollution is concerned, the largest amounts are produced in Lviv Oblast and Lubelskie and Podkarpackie Voivodships. Emissions from mobile sources in the whole cross-border region are becoming a major problem.

Between 2004 and 2006 the increasing tendency in the emission of NO₂ and SO₂ in Podkarpackie Voivodship was noted. In that time also a small increase in the concentration of gaseous air pollutants emission (excluding CO₂) from especially hazardous factories (87 complexes) was noted. At the same time, dust emission from these complexes has decreased. In 2006, in the vicinity of Krosno and in the zone between Przemyśl and Ustrzyki Dolne an increased annual average concentration of sulphur dioxide has been noted and in Stalowa Wola and Jarosław region – the highest in the voivodship annual average concentration of nitrogen dioxide. In 2006 the regions of the highest concentration of PM10 dust were the areas in the vicinity of Rzeszów, Przemyśl and Jasło.

In Lublin Voivodship the biggest amounts of gaseous and dust pollutions are emitted in the regions of large industrial units (over 75% of the total emission). According to the measurements conducted in 2006 by WIOŚ (Voivodship Inspectorate for Environmental Protection) in 4 zones of the voivodship (Lublin agglomeration, and in the counties: Biała Podlaska, Chełm and Zamość) the PM10 dust concentration has exceeded the norms for 24-hour period (the other air-quality parameters analysed then did not exceed their statutory norms for 2006). Concentration of sulphur dioxide and nitrogen dioxide in 2006 remained low level, and did not exceed the permissible norms. Average annual concentration of SO₂ in 2004 – 2006 was noted to have increased from 4.0 to 4.8 µg/m³. A similar tendency occurred in case of NO₂ (15.8 µg/m³ in 2004, 17.6 µg/m³ in 2006). In 2006, a significant increase of dust in suspension occurred as compared with the previous years (the cause of it being lower than in previous years air temperatures between January and March).

In Volyn Oblast in 2006, 56.8 thousand tons of pollutants were sent to the atmosphere (12.7% more than in 2005). Emission indicator from stationary and mobile sources increased accordingly and amounted to 2.8 tones per 1 km². This equals to 54.7 kg of pollutants per

capita of the oblast (in 2005 – 48.3 kg). Major source of the atmospheric pollution are motor vehicles which emitted 44.6 tones of hazardous substances. This yields 79% of the total emission. In comparison with 2005, the emission from mobile sources increased up to 4.3 thousand tones (10.7%) due to the increased number of private motor vehicles. In 2006, 12.2 thousand tones of pollutants were emitted to the atmosphere from stationary sources (210 enterprises and institutions of the oblast), 20.8 % more than in 2005. Ecological situation of the oblast is influenced by food processing plants (44.3% of the total number of enterprises), agriculture, hunting and forestry (11%), transport (7.6%). Their total emission amounted to 80% of the entire emission region wide.

Lviv Oblast is characterised by two types of atmospheric pollutions: aerial and linear. The first one occurs in the biggest industrial centres and is mainly caused by pollutants coming from stationary sources and cross-border flow of the pollutants caused by air masses. The second one is connected with the atmospheric pollutions along the main road tracks resulting from intensive car traffic. In Lviv Oblast emissions of pollutants from stationary sources in 2006 was at the level of 110.6 thousand tones (26% more than in 2005), and from mobile sources 96.1 thousand tones (4.8% more than in 2005). In 2006, in Lviv Oblast the total pollution to the air increased by about 10% as compared with the previous year. A significant share in air pollution belongs to motor transport; mainly the increased traffic in the cities of the oblast and on the main motor routes. The majority of stationary source pollutions that were emitted to the air in 2006 were gaseous substances (79.4% of the total emission). Most of the pollution is supplied by CHP plants.

In recent years in Zakarpatska Oblast a decrease in emission of stationary source pollutants to the atmospheric air has been noted. However, the amount of pollutions from motor vehicles has been continuously increasing, which is due to the increases in transit motor transport and in the number of the total number of private-owned cars. Among the towns of the oblast the most polluted in Uzhhorod and Mukacheve. The basic sources of pollutions are cars. Constant monitoring of the atmospheric air condition is conducted only in Uzhhorod. According to the data from laboratory of atmospheric air pollution of Zakarpatska Centre of Hydrometeorology for the last 9-10 years Uzhhorod has belonged to the first ten of the most polluted cities in Ukraine, and to the first three in the right-bank Ukraine. The concentration of benzopirene, nitrogen dioxide and formaldehyde in city atmosphere exceeds the maximum permissible norms few times.

2.4.2 Waters

The major hazards for the purity of surface water constitute industrial and municipal sewage, especially those which enter the environment without previous purification. Serious threats can also be posed by aerial pollution from agricultural, transport and urbanized regions, as well as inappropriate waste disposal. The pollution of surface water and underground waters (especially groundwater) is a serious problem in the Ukrainian part of the cross-border area. The situation in this matter is gradually improving on Polish side, yet, it is not satisfactory. In the recent years, there has been a slight increase of water drawing and consumption for the needs of national economy, which leads to the increase of the amount of sewage produced.

The quality of flowing surface waters of Lublin Voivodship is constantly improving. The percentage of river sections excessively polluted constantly decreases, whereas the sections of waters class II and III increase. In 2006, in Lublin Voivodship among the analysed rivers there have been no sections of I or II class according to physical and chemical criteria. According to the binding water purity classification (5 classes) in 2006 the following results have been obtained concerning analysed rivers (Voivodship Inspectorate for Environmental Protection 2007):

- no waters of purity class I and II (waters of very good and good quality)
- waters of class III (satisfactory quality) constituted 16.7% (21% in 2004)
- waters of class IV (unsatisfactory quality) were found in the majority of measurement sections analysed – 59.5 % (66.3% in 2004)
- waters of class V (bad quality) constituted 23.9 % (11% in 2004) of the analysed measurement.

The biggest rivers of Lublin region (Bug, Vistula) were caring waters of classes IV and V in general assessment. Waters of Wieprz River were mostly of class III, and only in some sections of class IV. The most polluted rivers of Lublin region are: Bug, Sołokija, Poniatówka, Kurówka, Bystrzyca, Czechówka and Tysmienica. Among the lakes analysed in 2006 (10 water bodies, 3-level classification) the majority had waters of the class II (70%), only Białe lake had waters of class I, and two of the bodies under study were of class III. In general, the level of quality of underground water looks favourable according to the research conducted in 2006: 30% of monitored sections met the criteria for good water quality, the majority of the rest (around 60%) was rated lower class due to high values of natural chemical elements, and only 10% due to the presence of pollution indicators.

In Podkarpackie Voivodship there were no rivers carrying the purest waters (class I) and waters of class IV were determined in 42 % of the analysed sections, whereas 10.3 % of analysed sections were of bad quality (class V). Major rivers of the voivodship were of the following quality: Vistula River - V and IV, Wisłoka – class III and IV in majority, San – class III and in the lower reaches class IV, Wisłok – generally class IV, and in the main run of the river – class III. The most polluted border river of the borderland was Shklo River (bordering Lviv Oblast in Ukraine). It flows through the area where sulphur is exploited and thus excessive sulphate pollution was detected.

As far as ground waters are concerned, in 2006 the majority of waters were of very good (class I), good (class II) and satisfactory (class III) quality, which constituted 55% of the total amount of waters analysed. 35% of the waters were of the unsatisfactory quality (class IV) and 9.7% of bad quality (class V).

Surface waters of Volyn, Lviv and Zakarpatska Oblasts are monitored by appropriate government services; however the classification used cannot be compared with the one existing in Poland. Generally, it can be inferred from the analyses that the main rivers of these Oblasts display excessive pollution due to discharge of industrial and municipal sewage, which were not completely purged. In many regions, especially lowland, ground waters are also polluted.

2.4.1 Natural hazards and natural disasters

The following phenomena can be found among the most important natural hazards of the cross-border region under study: floods, mass rock movement, water and air erosion, seismic phenomena (the Carpathians), and the possibility of occurrence of extreme weather conditions (climate change effect).

In Lublin Voivodship, flood phenomena are probable to occur on the main rivers: Vistula, Bug and Wieprz. Despite the existence of flood banks in the Vistula river valley, flood risk is still present there. The probability of extreme weather condition occurrence increases in Podkarpackie Voivodship as well (floods in the valleys of San, Wisłoka and Wisłok and their tributaries, landslides, droughts). Flood protection level is estimated as low. The length of flood banks is 611 km (in 2005) out of which 40% demands immediate modernisation. There is also an estimated demand for further 1100km in this matter.

The occurrence of flood phenomena is also a major problem of natural character in Volyn Oblast. Spring floods affect mostly the northern parts of the oblast, which lay in the catchments of Pripet, Turia, Stochid and partly Styr. The villages that lay close to the river banks are mostly exposed to flood disasters. Soil degradation due to the influence of water and air erosion is an important problem in the oblast. Total area of agricultural land, which was influenced by water erosion amounted to more than 100 000ha in 2006, out of which 88 300 ha was the arable ground (13.1% of the total surface of arable grounds). Air erosion constantly influences 258 200 ha of agricultural lands (25%).

Complex geostructural foundation of the terrain is characterised by a wide range of geological processes. Main part of the oblast is characterised by a higher engineering-geological difficulty in development; the Carpathians to the areas of high difficulty. Among the factors that influence this situations are: high seismic activity (the oblast is situated in 6-level seismic zone), karst, erosion, landslide, floods, marshes, turfs and walls. In Lviv Oblast spreading erosion processes are observed. For example, due to forest logging soil runoff is estimated for about 200 – 300 m³/ha, which leads to alternation of hydrological regime of soils, their degradation and, as a consequence, to ecological and economic damages. Serious flooding phenomena have been found in the catchments of Dniestr, Styr, San and Western Bug Rivers. The floods cause serious economic damages. Flood damages in 1998 were estimated at the level of 140m Hryvnia, in 2001 at about 58m Hryvnia, in 2003 – 3.8m Hryvnia and in 2004 – 32m Hryvnia.

Zakarpatska region is the most prone to floods in Ukraine. The inclination of slopes in the upper part of the Oblast (the Carpathians) facilitates flood formation, the level of water rises with the speed of 1.5-2.5 m in 3-4 hours. Because of not to steep inclination of terrain in the plain reaches of the rivers, the floods develop and submerge large areas. Largest damages were caused by floods in: 1947, 1962, 1974, 1979, 1992, 1998, and 2001. Moreover, Zakarpatska Oblast is characterised by the occurrence of the following phenomena: landslide, lateral erosion in rivers, surface erosion, karst phenomena, and increased seismic activity.

2.4.2 Ground surface and waste management

In terms of disposal management modern solutions are in the implementation phase on the Polish side of the cross-border area and in the planning phase on the Ukrainian side. In view of the envisaged increase of the amount of rubbish it is essential to manage the wastes properly; this includes selective collection and recycling materials from the flow of rubbish produced. In Ukrainian Oblasts, the problem of hazardous substances disposal and eradication remains to be solved, coming from both: industry and agriculture (pesticides, chemical fertilizers). Within the next few years, solving the problem of wastes disposal should be of primary importance in the Polish-Ukrainian cross-border area.

In Lublin Voivodship there are 134 municipal rubbish dumps of the total area of 295 ha, out of which 109 fulfils all the legal and formal requirements. According to the Voivodship Inspectorate for Environmental Protection in Lublin in 2006, existing dumps received 302 813.36 Mg of rubbish (4.2% more than in 2005). There is still a deficiency in the number of appliances for salvaging and neutralising municipal wastes, moreover not enough amounts of wastes are subject to compost or heat treatment. A progress in selective collection of wastes is minimal in municipalities; this concerns also the dangerous wastes which appear in the flow of municipal wastes. In Lublin Voivodship there are nine industrial dump sites and two sites for wastes collection. Between 2001 and 2005 the amount of industrial wastes produced increased and in 2006 a decreasing tendency was noted. In general, industrial wastes constitute 94% of all the wastes produced in Lublin Voivodship.

In Podkarpackie Voivodship, similarly to the rest of the country, waste disposal is still favoured; there occurs a lack of complex solutions, especially of a proper hierarchy of wastes disposal. Between 2002 and 2006 the amount of industrial wastes produced increased. In 2006 1337 thousand tones of industrial wastes were produced as well as 342.8 thousand tones of municipal wastes. The amount of hazardous wastes was estimated for about 29600 tones. About 161000 tones of municipal wastes (7.5 kg/capita) were collected selectively, which is more than in 2005 (6.1 kg/capita). It is still a low ratio. In 2006 wastes were disposed at 41 municipal dump sites and at 11 industrial dumps. There were 3 hazardous materials incinerations, 9 municipal waste sorting plants and 3 compost sites. Areas abandoned by industry and military forces are one of the major socio-economical and ecological problems. These include especially the exploitation regions of mining industry, mainly of sulphur mining, and lands after the collapse of state agricultural enterprises. In Podkarpackie Voivodship the area of lands where sulphur used to be exploited which now demand remediation and development equals 2691 ha (in 2004). These are mostly devastated soils.

The problem of municipal wastes collection in Volyn Oblast is very hard. Currently, there are 24 municipal and village solid wastes dump sites. Out of these 7, the total area of which is 30 ha, have been overfilled. Within the borders of the oblast there are 550 tones of useless and forbidden to use pesticides. The number of dump sites where the useless and forbidden pesticides are stored has decreased from 476 to 96, which lowered the risk of extraordinary hazards occurrence while handling these types of wastes and hazardous substances. Neutralisation and utilisation of hazardous substances is also a burning issue, in the oblast there are 2500 tones of such substances.

The largest amount of industrial wastes has been accumulated at slag heaps of

bituminous coal (around 108 millions tons of main wastes). In Lviv Oblast 5 millions m³ of solid wastes are produced annually, including municipal and industrial sites, out of which only 1.8 million m³ (37%) is subject to organised collection and management. The remaining part is managed in an unorganised manner. Currently in the oblast there are 51 organised municipal rubbish dumps and 521 illegal wastes disposal sites. Total area of organised municipal wastes rubbish dumps amounts to 461 ha, and the illegal sites cover the area of about 300 ha. The data coming from 15.12.2005 show that in the oblast there are 774 419 tones of useless pesticides, 50% of which are of unknown origin or of unspecified chemical composition. The issue of conduct (storing, packaging, neutralisation) with the useless and forbidden to use pesticides in Lviv Oblast is regulated by "Regional programme of enterprises in the field of safe conduct with forbidden to use and useless for farming pesticides in Lviv Oblast in 2005-2010". Because of the accumulation of great amounts of dangerous wastes the problem of ecological safety of Lviv Oblast is very hard. Data coming from 1st January 2007 state that almost 50m tones of dangerous wastes were found in the oblast.

In January 2007, in Zakarpatska Oblast there is an accumulation of 354 tons of useless and forbidden-to-use plant protection products (pesticides and other chemical substances), as well as of other substances of unknown origin. More than a half of these is stored in conditions that do not meet the relevant sanitary and ecological norms. Utilisation of galvanic wastes also constitutes a problem. In the times of USSR, in Zakarpatska region, factories that built equipment for radio-engineering were located; they were the co-operators of large industrial associations. Recently 10 enterprises of this kind terminated their production, however galvanic wastes were not recycled. Currently there are 203.6 tons of this type of wastes, out of these 14.6 tons constitute hazardous wastes of 1st class, 33.3 tons of 2nd class, and 158.4 tons of 3rd class. Currently, the list of issues concerning environment safety in rural and urban areas of the oblast comprises the issue of complex managing of municipal wastes: starting from collecting and segregation stages and ending with utilisation or disposal on special wastes disposal sites. In Zakarpatska Oblast in all 13 rayons there are 298 legal municipal wastes disposal dumps, which together cover the area of 214.53 ha. They are all overfilled and constitute a threat for the environment. No selective collection of municipal wastes is carried out.

2.4.3 Water and sewage infrastructure

Municipal infrastructure, and in particular water and sewage systems and appliances, as well as wastes management units are generally organised better in urbanised areas of the cross-border Polish-Ukrainian area. However, as far as the general performance effectiveness and modernity of technological solutions is concerned, the Polish side of the region in question is better developed. On Ukrainian side the majority of existing facilities and devices require a comprehensive modernisation or replacement.

In Podkarpackie, surface waters from catchments of Vistula River and its tributaries: San, Wisłok, Wisłoka, as well as underground waters are both sources of water supply for municipal and industrial use. Sewage channelling systems are less developed than water supplying systems and this mostly concerns the rural areas. In Podkarpackie Voivodship 82.4% of citizens of urban areas uses sewage channelling system and only 23.7% of

citizens of the rural areas. The ratio of waterworks length to the length of sewage channels equals 0.7. At the end of 2005 there were 200 municipal purification plants and 86 industrial purification plants.

In Lublin Voivodship water supply infrastructure developed more intensively than sewage channelling. In 2006 the length of waterworks in use was 17 941 km. The ratio of the length of sewage channels to the length of water supply systems equalled 0.2 in 2006, and had remained on the same level since 2000. This means that the length of waterworks is over five times longer than the length of sewage channels. 78% of the Voivodship inhabitants use waterworks system and only 44% the sewage channelling system. In rural areas these indexes, especially the sewage channelling system index, are much lower than in the urban areas (just above 10% in urban areas and 85% in cities in 2006). According to the data gathered by Central Statistical Office Regional Data Bank in 2005 in Lublin Voivodship there were 83 industrial water purification plants and 223 municipal water purification plants. Among the municipal plants only 25 units had installations for increased nutrients removal.

In Volyn Oblast 240 waterworks are exploited, out of which 15 are municipal, 42 departmental and 183 rural. The citizens of the oblast are supplied with drinking water by the protected springs of underground water: 1738 drilled artesian wells (drawing 110300 m³ of water in 24 hours). The total length of waterworks is 813.3 km. Around 30-50 % of the total length requires comprehensive modernisation or replacement. The majority of the citizens uses water from wells (shallow dug wells), and in the region of Polesie ground water is used. In Volyn Oblast 30 water purification plants are exploited. In majority these are facilities built in early 90s with technological solutions from the 70s and 80s. Currently, the most important parts of these units are worn out in 50%, and in some units this percentage is even higher. The plants possess obsolete equipment and utilize out-of-date technologies.

In Lviv Oblast there are 41 cities and 35 towns. The total length of municipal waterworks amount to 2790.5 km, out of which 1648 km (60%) is located in Lviv, whereas the length of intercepting sewers amounts to 873.3 km (in Lviv- 579 km; i.e. 66 %). The ratio of the total length of sewage channels to the waterworks equals 0.3. In Lviv Oblast there are 85 water purification plants, which purify both municipal and industrial sewages. The great majority of plants was built before 1990 based on the technical designs from 1970-1980, and it requires comprehensive modernisation. In Zakarpatska region water is supplied to the citizens by means of 123 waterworks, out of these 21 are municipal, 66 – departmental, and 36 – village, as well as 2937 private or not centralised sources of water supply (2130 wells, 499 spring water intake, 308 artesian wells). Out of the total number of waterworks 8.9% does not meet sanitary norms and development standards (no sanitary protection zones – 4.8%, no water purification plants – 5.7%, insufficient capacity of purification installations – 2.4%). Rural areas generally lack sewage channels or water purification plants.

2.5 Protected areas and sites

Polish-Ukrainian cross-border area is characterised by the abundance of natural values. The most valuable ecosystems (17% of region area) have been subject to legal protection. The highest percentage of the protected area lies on the Polish side of the region (Podkarpackie Voivodship – 44.5%, Lublin Voivodship – 22.7%); whereas on Ukrainian part

this fraction is lower (ranging from 5.2% in Lviv Oblast to 12.8% in Zakarpatska Oblast). Biosphere reserves, national parks and nature reserves belong to the most valuable ones (especially in Ukrainian part) as well as the areas of the European Ecological “Natura 2000” network (on Polish side). Within the boundaries of Podkarpackie Voivodship there are two national parks: Bieszczadzki and Magurski. Bieszczadzki National Park and Landscape Park of San Valley and Ciśniańsko-Wetliński Landscape Park makes up the Polish part of the International Biosphere Reserve of Eastern Carpathians . It also embraces two Ukrainian protected areas – Uzhansky National park in Zakarpatska oblast and Nadsyansky Regional Landscape Park in Lviv Oblast, as well as Slovakian National Park Polonyna. Moreover, there are 10 landscape parks (279 751 ha), 93 natural reserves (10 733.10 ha), 19 protected landscape areas (522 000 ha) and 1488 nature monuments. In Podkarpackie Voivodship seven Special Protection Areas of birds within “Natura 2000” programme have been formed; the foundation of further 12 Special Areas of Conservation of habitats within “Natura 2000” programme is planned. In majority, “Natura 2000” regions coincide with the already existing legally protected areas.

The most valuable natural ecosystems in Lubelskie Voivodship are protected by two national parks (Roztoczanski and Poleski), 17 natural landscape parks, 18 protected landscape areas, 85 natural reserves and 1554 nature monuments. In this respect, the most important part of Lublin Voivodship is Polesie (including Łęczna-Włodawa Lakeland) – where West Polesie International Biosphere Reserve was formed. Significant natural values are also characteristic of Roztocze together with Solska forest, where the formation of International Biosphere Reserve is planned, and the valleys of Vistula, Bug and Wieprz Rivers. In Lublin Voivodship 12 Special Protection Areas of birds have been formed. A project of 50 animal sanctuaries and a project of supplementation of bird sanctuaries network with 11 facilities are both waiting for approval. Similarly to Podkarpackie Voivodship, the borders of “Natura 2000” areas partly or entirely coincide with the existing boundaries of protected areas (national and natural landscape parks, protected landscape areas, natural reserves).

In Volyn Oblast 370 sites are subject to protection (national park, natural reserves and nature monuments, natural landscape and dendrologic parks), occupying 180.9 ha of land, which amounts to 8.9% of oblast's area. 24 sites are of national value. Since 1983 within oblast's boundaries there exists Shats'k National Park, which is considered the only area where no negative influence of urbanisation and industrialisation can be seen. The park was designed on the basis of Svytiaz Lake and surrounding forests that are abounding in mushrooms, berries, medical herbs, birds and animals (28 kinds of plants and 32 kinds of animals were listed in the Red Book of Ukraine). Currently it is the recreation region for national and foreign tourist, which takes up large terrains of water and marshes of international importance. In 2001 Cheremysl Nature Reserve was founded. Here rare animals can be seen, e.g. lynx, badger, red kite, ermine and others.

In Lviv Oblast there are 5 groups of natural regions, which differ according to geological and geomorphological structure, ground and climate conditions, as well as floral and geobotanic peculiarities, including the important cross-border areas – Roztocze and Carpathians. In the oblast, natural regions of Carpathians group are fully presented in the system of protected nature. The oblast is situated in the border zone, thus a wide

range of sites protected in the Carpathians and in Roztochia is of cross-border importance, One of such objects is Nadsyansky Regional Landscape Park, which together with the neighbouring Polish San Valley Landscape Park makes up a complex of protected nature – Polish-Ukrainian-Slovakian Biosphere Reserve of Eastern Carpathians. An important area of integrated territorial protection is the area of East Roztochia, the main part of which, both on Ukrainian and Polish side, belongs to protected lands. There are 323 protected sites which occupy 5.2% of the oblast's territory. Among these, there are high-rank multi-purpose units of nature protection, scientific-research and recreation sites of national importance, e.g. natural reserve "Roztochia" (2084.5 ha) and two national parks – Yavorivski (7078.6 ha) and Skaliste Beskidy National Park (35684 ha).

In Zakarpatska Oblast there are 453 protected natural sites, which take up 12.8% of the oblast. Three sites are of national importance: Carpathians Biosphere Reserve (53 630 ha), which borders Romania, Uzhansky National Park (39 158.3 ha), which borders Poland and Slovakia constituting a part of the International Biosphere Reserve "Easter Carpathians", and "Synevyr" National Park (40400 ha). The network of protected sites and areas comprises one regional natural landscape park: "*Enchanted Land*", 22 reserves of national importance, 40 reserves of regional importance, 9 protected wildernesses, 9 nature monuments of national value and 52 monuments of local value. The great majority of large and important protected areas are situated in the mountainous area of the oblast. The oblast's programme for developing ecological network plans to increase the surface of protected areas to 23% of the total surface of the oblast. Within the framework of the programme the valuable areas of Latorica, Borzhava and Tisova parts of Zakarpatska plain are planned to become protected terrains.

3 Tourism

Cross-border area is characterised by high natural and cultural values, which create an opportunity to develop tourist and recreational activities. Multiculturalism, the characteristic feature of the area, means that the area is and has for centuries been inhabited by the representatives of different nations and religions. Multiculturalism also denotes different cultures of the individual regions. Cultural mosaic is confirmed not only by the specific architecture (including the sacral one) and settlement layout, but also by languages and dialects, tradition and customs, rituals and folk art.

3.1 Areas and sites of high tourist value

3.1.1 Natural sites and areas of tourist interest

In the cross-border area there are many areas of high tourist values and of large potential for tourism development. Some of them (i.e. protected areas) were discussed in the chapter dedicated to environment protection. This part, besides protected areas, focuses on other natural sites and regions which can facilitate tourism development. These undoubtedly include forest complexes (Polesie and Carpathians), many lakes (lakeland areas) as well as sections of river valleys with the more attractive landscapes.

In Lublin Voivodship the most important tourist regions are: Nadbużański landscape

park – mostly the Bug River gorge in Podlachia, Łęczna-Włodawa (over 60 lakes), Middle Roztocze and Nałęczów plateau (Kazimierz Dolny and Nałęczów), Janów and Solska forests. Two national parks were formed in Lublin region (Poleski and Roztoczanski), 17 landscape parks and 18 protected landscape areas. In 1992 an International Biosphere Reserve “West Polesie” was formed and yet another one – “Roztocze and Solska forest” is planned to be created. There are also two spas in the region: Nałęczów and Krasnobród.

In Podkarpackie Voivodship 48% of the total surface of the Voivodship constitutes protected areas, including: 2 national parks (Bieszczadzki and Magurski National Park), 10 landscape parks, 17 protected landscape areas and 93 nature reserves. Most of these areas are crucial for tourism development, especially the sites located in the area of the Carpathians (Bieszczady Mountains). One of the most important sites is the International Biosphere Reserve “East Carpathians”. This is the only park in Europe that is situated in the borderland of three countries and the following sites belong to this international reserve: Bieszczadzki National Park, together with San Valley Landscape Park and Ciśniańsko-Wetliński Landscape Park. Other tourist attractions are: Solina Lake on San River (22km²) and Arboretum in Bolestraszyce (3800 species, types and forms of plants scattered around 304.1 ha).

In Volyn Oblast there is Shats’k National Park, one regional landscape park: “Stochyd-Pripyat”, 16 nature reserves, 10 sites with park and garden art, and 300 other nature sites. Shats’k National Park is a real treasury of valuable natural and recreational sources, which facilitate the development of spa and tourism and recreation activities. The most important values possess the lake-and-forest landscapes. There are 265 lakes in the oblast (the majority is used for tourism), among them the biggest one – Svytiaz. Spas that lie within the borders of the oblast: Kovel and Kivertsi (hunting household Cumanky Las) sub-urban recreation zones in the vicinity of Lutzk, Kovel, Novovolynsk, Volodimir-Volyns’kyi also constitute tourist attractions. In the area of Volyn there occur springs of mineral waters (sanatoriums “Prolisok” and Lisova Pisnya) as well as deposits of therapeutic peat.. There is also one botanic garden in the oblast: in Lutzk founded by Volyn State University of Lesya Ukrainka, in which there are 100 rare types of trees and bushes.

In Lviv Oblast protected areas constitute a relatively small percentage of the total land surface – 5.2% (45 nature reserves, 10 sites of garden and park art and 268 other protected nature sites). Nature reserve “Roztochia” and two National Parks: “Yavorivski” and “Skaliste Beskidy” also play important roles in the development of tourism. On the hills of the oldest part of Lviv there is a regional landscape park “Znesinnya” – the only park in Ukraine that is made up of a single nature-historic-cultural site. The other regional parks: Nadsyansky and “Verhniodnistrovsky Beskidy” and the world-famous “Styryisky Park” – a monument of garden and park art (from 1879). Lviv region abounds in resources of mineral waters (over 200 springs) and medical peat, on which famous spas were formed: Truskavets, Morshyn, Shklo, Nemiriv and Velky Lubin. Currently there are 133 sanatorium and recreation facilities. At wintertime the tourists can spend their time in ski-resorts: Slavske, Tysovets, Oryavachik, where there are 14 ski lifts all together.

Zakarpatska nature is also of high importance. The mountain ecosystems have remained relatively unaltered and have an outstanding almost primeval character. Karpacki

Rezerwat Biosfery is the biggest in the oblast, where there are more than a thousand of genera of protected embryophytes, 64 species of mammals, 173 species of birds, 9 species of reptiles, 13 species of amphibians, 23 species of fish and more than 10000 species of invertebrate. It was established in 1968 and it has been spreading until today. Since 1992 Rezerwat has been a part of the UNESCO international network of biosphere reserves. At present, Karpacki Biosphere Reserve incorporates the massifs: Szerokołużański – Uhla, Swydowiec-Czornohora, Rachów – Kuzijski and Marmaroski, Dolina Narcyzów and Czorna Góra and Juliwska Góra, which are reserves of national importance. In the Zakarpacie area, two national parks have been established: Synevir i Uzhansky. Uzhansky National Park is part of the International Biosphere Reserve of East Carpathians. In the oblast, there are also Regional Landscape Park “Enchanted Land”, 22 temporary reserves of national importance, 40 temporary reserves of local importance, 9 protected sacred spots, 9 nature monuments of national importance and 52 nature monuments of local importance. Moreover, there is one botanical garden of national importance, 4 dendrological parks of local importance and 34 parks which are monuments of garden art: 1 of national importance and 33 of local importance. It should also be observed that there are mineral waters, among which familiar types are found: Borjomi, Zuber, Esentuki, Narzan, chalybeate Narzan, Sojmy, Kelechynska. There also occur thermal waters in the Oblast; their temperature fluctuates between +18o C and +80o C, their flaw depth is around 800m (Vilchivci, Uzhgorod, Uholka, Ruske Komarovce, Syniak, Shayan, Bihan, Harazdivka, Kosyny).

3.1.2 Sites and areas of special cultural value.

Cultural potential is formed by natural amenities and anthropogenic values – sites of historical value, museums, interesting places, cultural events organised in the region, traditions, customs, folklore and history. Due to complex historic past and centuries-old mutual coexistence of many nations and many religions Polish-Ukrainian cross-border region is characterised by high cultural values. The more important of these have been described below.

In Lublin voivodship there is a range of sites and areas of high cultural value. These include the following cities: Lublin, Zamość, Kazimierz Dolny, Naęczów, Puławy, Włodawa, Chełm, Biała Podlaska, Tomaszów Lubelski, Janów Lubelski, Łęczna, Kraśnik and holiday resorts: Zwierzyniec, Krasnobród and Susiec. There are 36 historic sites of historical spatial lay-out. The most valuable historical urban complexes are: Lublin (dating from 1317) with historic Old Town, Kazimierz Dolny (mid-fourteenth century) – both of Middle Age origin and included on the Historic Monuments List. Apart from these there is also the city of Zamość, founded in 1580 – the only site in Lublin region which has been included on UNESCO World Heritage Site list (in 1992). There are 3705 protected sites included in the Register of Historic Monuments (in 2000 there were 3823 sites), the majority of these are: churches and monasteries (414), and other sacral buildings (318), palace and court parks (267), dwelling houses (226) and cemeteries (184). Among the sites of archaeological importance the majority are fortified settlements (84), mostly dating from Middle Ages (8th –13th century). Several dozens of sites from the times of Red Ruthenia in south-east Lublin region (Czermno, Gródek, Sądziadka, Biała Góra, Posadów, Chełm) also constitute an important complex. The

biggest former fortified settlement in the region is a three-rampart fortified settlement of Vistulans in Chodlik close to Karczmiska. In Lublin region there is one Orthodox Lublin-Chełm Diocese; and there are 54 Orthodox and Uniate Churches. The most precious, wooden ones are located along the east border (some of them have been taken over by Catholic churches) in Hrebenne, Budynin, Chłopiatyn, Terebiń, Werbkowice, Ortel Królewski and in Lublin – in open-air ethnographic museum, and abandoned – in Dłużniów and Myców. The only Neo-Uniate church in Lublin area can be found in Kostomłoty. The largest Orthodox centres in the voivodship are: monastery, church and seminary complex in Jabłeczna, parishes and open Orthodox churches e.g. in Chełm (cathedral), Hrubieszów, Włodawa, Sławatycze, Terespol, Biała Podlaska, Lublin, Horostyta, Dratów, Hola. The best preserved remains of Jewish culture are temples in Włodawa (museum), Łęczna (museum), Zamość, Szczepieszyn, Modliborzyce, Tarnogród, Wojstawice, Józefów Biłgorajski, Kraśnik and Kazimierz Dolny. The oldest and most valuable Jewish cemetery is situated in Lublin, other vast Jewish cemeteries are located in Szczepieszyn (350 macebas), Kazimierz Dolny and Józefów. The most important Roman-Catholic buildings include Gothic churches (Piotrawin, Stężycza, Chodel), Gothic-Renaissance churches (Lublin – former Dominican church, Kraśnik), Lublin Renaissance (cathedral in Zamość, three churches in Lublin, parish church in Kazimierz Dolny, St. Anna Church in Końskowola, parish churches in Turobin, Łęczna, Szczepieszyn, Uchanie, Czemierniki, Biała Podlaska, Radzyń Podlaski and Janowiec), Baroque churches (Lubartów, Włodawa, Chełm, Serniki and Ostrów Lubelski – all of them designed by the architect Paweł Fontana; and Radacznica and Lublin) and many of classical architecture.

In Podkarpackie Voivodship 8 cultural areas are distinguished:

- 1) Magnate culture (the heritage of First and Second *Rzeczpospolita* – the time from the beginning of Polish state till 1945). The most important remains of these times are: castle in Przemyśl (from 1340); castle in Baranów Sandomierski (dating from the end of 16th century); residence of the Krasicki and Sapieha families in Krasiczyn (from the turn of 16th and 17th centuries); castle in Łańcut – one of the most magnificent and best preserved Magnate residences in Poland (dating from 17th century); castle complex in Dubiecko, built at the end of 16th century; the complex of palace and park complex of the Mniszech family in Dukla, dating from the first half of 18th century; the former castle of the Kmit family in Lesko, dating from the second half of 16th century; classical palace in Narol from 1770; neo-gothic palace of the Rey family in Przecław; the former bastion-castle of the Lubomirski family in Rzeszów, dating from 17th century; palace and park complex in Przeworsk.
- 2) Bourgeoisie culture, which includes old Polish cities, charm and heritage of architecture, city planning objectives and various heritage of craft tradition displayed in museums and in historic scenery. The following cities are perfect examples: Rzeszów, Jarosław, Przemyśl, Krosno, Sanok, Jaślika; art craft, museums exhibits, city planning objectives, monuments of architecture.
- 3) Peasantry culture, which includes monuments and legacy from the culture of countryside inhabitants. Displays in museums and open-air ethnographic museums in Sanok, Kolbuszowa and Zydranowa can be exemplary of this, as well as wooden architecture (residential, utility and sacred);

- 4) Religious culture this includes facilities connected with the following religions: Catholic, Greek Catholic, Orthodox, Protestant and Jewish. The examples of these are: sacred wooden buildings, including the biggest Gothic wooden church in the world in Haczów and in Blizne (both included on UNESCO list of World Cultural and Natural Heritage), the Marian Sanctuaries Route, the Icon Route, the Wooden Architecture Route, the Byzantine Churches Route, the Calvin Route;
- 5) Prehistoric culture (evidenced traits of settlement in the area date back to few thousands years before Christ) – mounds, barrows and fortified settlements.
- 6) Jewish culture (since 17th century). In many towns Jewish population constituted more than 50% of all the citizens. The ravages of war and holocaust destroyed this society but still many traces of this culture remained, e.g. synagogues (for example in Lesko, Łańcut, Rymanów), cemeteries (e.g. in Lesko, Leżajsk with the grave of Cadyk Elimelach), dwelling houses (e.g. in Jarosław) and museum exhibitions.
- 7) Industrial culture, which includes technical culture monuments (e.g. glassworks and industrial areas). This is exemplified by Museum of Oil Industry in Bóbrka (the first oil well in the world founded by Łukasiewicz).
- 8) Military culture, which includes monuments of defensive architecture. The most interesting sites of this type are: fortress in Przemyśl, Molotov Line built by the Russians between 1940 and 1941, from the time of 2nd World War: Stępnina-Cieszyna shelter complex, tunnel shelter for staff train in Strzyżów.

Historical, cultural and artistic buildings reflect the multi-century history of Volyn. In the area of Volyn oblast there are 1045 buildings that are liable to legal protection, including 149 – archeological, 860- historical, 35 – of grandiose architecture and art. 199 historic architectural buildings have been registered in the oblast area (Orthodox churches, churches, chapels, castles, palaces, houses, Jewish cemeteries etc.). To the recently discovered unique archeological monuments belongs the princely city of Uhrovska, the first recordings of which come from the chronicle dating back to 1207. The excavations of the Old Russian fortified settlement in the vicinity of Novouhruska village in the Luboml rayon helped to relate it to that of Uhrovska. Taking into consideration the cultural merits that are attractive for tourist there are the following basic groups of monuments:

- 1) Castle-palace complexes. Best recognized: the castle of Lubart in Lutzk (9th-15th century), which is the gem of the history-culture reserve “Old City” and which represented Europe during the reign of Lubart and Vitovt; the castle of Radziwiłł family (XIV-XVIII century) in Olica with the picturesque park.
- 2) Monuments of middle-class culture represented by historic and archeological monuments of big and small cities in the oblast, including: Berestechko, Gorohiv, Kamin’ Kashirs’kyi, Kovel, Kivertsi, Luboml, Rozhische, Ustyluh, Zaturtse. However, most of monuments are in Lutzk and Volodimir-Volyns’kyi where two history-culture reserves: „Old City” and “Ancient Volodimir” are situated.
- 3) Monuments of peasant culture, which are represented by over 2000 exhibits of National Museum of History of Agriculture in the city of Rokyny. Special interest is paid to the open-air exhibition – the first heritage park of Volyn.
- 4) Monuments of religious culture, which testify to the multi-religious characteristic of Volyn,

widespread of Christianity and other faiths. Within the borders of the oblast there remained old churches, both Catholic and Orthodox; some in Lutsk: Peter and Paul church (1450-1612), Holy Trinity Collegiate Church (1640), stone Orthodox church of Presentation of Our Lord, Orthodox church of Mather of God the Caring, Orthodox church of Raising of the Cross, Orthodox cathedral of Holy trinity (18th-19th century), synagogue (the beginning of 17th century), nunnery of Brigidine Sisters, Protestant church; in Volodimir-Volyns'kyi: Mstislav temple, Holly Mountain women nunnery (15th century), Orthodox churches of Falling Asleep of Holly Mary the Virgin and of Saint Varlaam in cave; in Beresteczko (Holy Trinity Church in Rococo style dating from 17th century, Orthodox cathedral dedicated to Holy Trinity dating from the beginning of 20th century, Saint Thecla chapel (17th century); in Myltse in Stara Vizhivka rayon; men monastery (16th-19th century).

- 5) Monuments of prehistoric culture, which is represented by fortified settlements of Volyn type in Volodimir-Volyns'kyi, and the so-called 'stizh' fortified settlement in Kamin' Kashirs'kyi, Luboml, Vetly, and Turyjsk.
- 6) Monuments of military culture that include sites of defensive architecture. Stone and masonry towers are evidences of local defensive architecture; they appeared in the second half of the 13th century and remained in Stovp, Kholm, Beresti, Kamianiec and Czartorysk. This type of fortification was not widespread in Russian lands, except from West Volyn and Chełm. The appearance of these towers was an important step in the development of fortifications, and the first keeps in Ukraine were built in fortified settlements of Volyn area. Among the few monuments of defensive architecture of 14th -15th century, the architecture of which remains authentic one can include castle of Lubart in Lutsk and the castle-palace complex of the Radziwił family in Olica; in January 2003 state historical-cultural reserve of "Ancient Volodimir" was founded. Fire shelters near Ustyluh are the remainings of defensive line from the pre-war times.

High cultural values are also typical of Lviv region. Historical complex of Lviv centre was included on the UNESCO list of World Cultural and Natural Heritage (its number is 865). In Lviv Oblast there are 794 monuments of architecture and urbanisation of national importance, 2637 monuments of local value and 834 archaeological monuments, 14 of which are of national status. According to their tourist value, eight groups of types of culture sites are distinguished:

- 1) Magnate culture. The Potocki Family palace in Lviv is the best known among the palaces as well as the castles in Zhovkva (16th century), Zolochiv (dating from 1634), Olesko (1327), Pidhirtsi (1635-1640) and Svirzh (15th century) which are all joint by a tourist route "Golden Horseshoe of Lviv".
- 2) Bourgeoisie culture, represented by architecturally perfect cities: Zhovkva and Brody. Other cities with great number of monuments are: Drohobych, Sambir, Staryi Sambir, Stryi, Khyriv, Turka, Mykolaiv, Kamianka Buzka, Radekhiv, Sokal and others. However, the majority of monuments is situated in Lviv – market complex from 14th century.
- 3) Peasantry culture, which is represented by exhibit items gathered in open air museum of folk architecture in Shevchenko Haj in Lviv, and in the unique Cossack settlement complex in Small Polesie in Zhovkva region.
- 4) Religious culture, which is represented by 2400 Orthodox churches and churches, including

St. George Cathedral in Lviv (1744-1770), Orthodox churches of Transfiguration (1877-1898), Dormition (1591-1629), St. Parascevia's church (1644), St. Onuphrius' church, (16th century), Dominican church (13th century), Sisters of St. Clare's church (1607), Carmelites' church (17th century), Jesuits' church (1610-1630), Latin Cathedral (founded in 1360), Bernardine monastery complex (1600-1630), Armenian church (17th century) and church in the convent of Benedictines (1597). Wooden churches are especially precious; the oldest of these are churches in: Potelychy (1502), Wola Wysocka, Zhovkva (17th century) and many others with iconostasis considered masterpieces of religious art. Many tourists and pilgrims visit monasteries in Krehiv (16th century) and a cave monastery complex in Stradyich (from 1242).

- 5) Prehistoric culture, old excavation site Pryjma near Mykolaiv (20 000 before Christ), multi-storey cave hermitage in Rozhircz near Stryj and an underground town – the legendary capital of Bila Khorvatia in Stolsko (the turn of 8th and 9th century).
- 6) Jewish culture. The most important remains of Hasidic movement is the city of Belz, especially the Jewish house of prayer Ishre Lev (1909) as well as Jewish district fortification in Gorodek – Gnin fortress. Apart from these there are many other monuments of the culture: synagogues in Brody and Gorodek (4 synagogues – the old big one, Hasidic Klojs, craftsmen synagogue and Bet-Gamidrash) and “Gold Rose” Synagogue in Lviv (1582-1594).
- 7) Industrial culture, which includes monuments of technical history (e.g. glassworks and industrial areas). A good example of these is the museum of Lviv railway history, Museum of Metrology and Measuring equipment, pharmacy – museum in Lviv and others;
- 8) Military culture, which includes monuments of defensive architecture. The most interesting sites of these are Royal Arsenal in Lviv, fortress city of Tustan, which is located in the rocky mountains of Urich in Upper Dniestr Beskidy and fortifications in Mikolaiv, Brody, Zhydachiv, Stare Siolo, Khiriv, the castle of Pomoryany and others.

Zakarpatska is characterised by specific cultural values. The most attractive for tourists are the following cities: Uzhgorod (castle museum – of local studies, Arts museum, Zoological museum), Mukachevo (castle –museum of local studies), Zarichevo (“Lemkivska Sadyba” museum), Lysycheve (museum “Koznya”), Kolochava (museum of Ivan Olbracht), Synevir (museum of floating) Solotvyno (Museum of Salt-Miners). In total there are 1817 relics, and monuments of history, culture and art (496 of them being of archaeology, 1273 – of history and 48 – of art). In Uzhgorod castle there is a museum of local studies. The museum occupies 30 chambers with over 100 000 exhibits. The following groups of exhibits can be seen: numismatic collection, collection of bronze articles, arms, manuscripts, old scripts, valuable periodicals, collection of house handicraft, collection of folk musical instruments, collection of folk costumes and embroidery, and collection of clocks. The interesting exhibits are archaeological and natural departments. Wooden churches are the pride of Transcarpathia. Quite unique in their style, they have been built without any nails, in architectural styles characteristic only to a particular region or village. Among them, a ‘boyk’ type of church can be distinguished which is, undoubtedly, the earliest variety of wooden temples in the Carpathians: a triple-framed temple, triple-topped with hipped roofs with several breaks. Other churches were built in ‘lemk’ and ‘hutsul’ styles. Wooden churches of Zakarpatska can be found for example in: Vyshka, Uzhok, Suhyy, Tyshiv, Bukovets’,

Pylypets, Danylovo, Krainykovovo, Verhniy Studeny, Husnyy, Kolochava-Horb, Kolochava-Imshad', Serednye Vodyane, Synevirska Polyana, Torun, Svalyava-Bystryy, Podobovets', Huklyvyy, Yalove, Kolodne, Sil', Kostryno, Lazishchyna, Yasinya, Neresnytsya, Vilhovytsya, Dilove, Lokit', Deshkovytsya, Sokyrynnytsya, Likitsary, Domashyn, Stuzhytsya, Izky, Repynne, Nyzhniy Studeny, Oleksandrivka, Uzhgorod (an open air museum), Velka Hrabivnytsya, Zadiliske and Kelechyn.

3.1 Tourist and recreation infrastructure

The development of tourism is highly influenced by the accommodation availability and tourist and tourist-oriented infrastructure. Their characteristics are presented below.

The total length of tourist trails in Lublin region amounts to 3800 km. Walking and cycling trails are the best developed. In Lublin Voivodship there are 1900 km of walking trails of regional importance. The longest of them are: Nadbużański (306 km), Nadwiślański (104 km), Wyżynny (151 km), Centralny Roztoczański (143 km) and Centralny Poleski (119 km). The total length of all the 78 trails is 3185 km. In comparison with 2000, there has been an increase by about 10% in both the quality and length of walking trails. A dynamic development of cycling trail has been noted (today over 30 trails) – since 2000 the network has tripled. The total length of cycling trails of regional importance is around 840km, the longest being: Nadbużański (285 km), Lublin – Wola Uhruska (109 km), and Roztoczański (179km). In Lublin Voivodship there has been a gradual development of horse riding centres (45 facilities). They can usually be found in the vicinity of agritourist farms or recreation centres, as well as near horse riding clubs and horse breeding centres – in Janów Podlaski and Białka near Krasnystaw. Bathing beaches (86) are mostly situated by the lakes of Łęczna-Włodawa lakeland (Białe Włodawskie – several beaches, Zagłębcze, Piaseczno, Łukcze, Krasne and Firlej) and by artificial lakes (Zemborzycki, Nielisz, Janów Lubelski, Majdan Sopocki, Krasnobród). Ski, underwater and sailing tourisms are all of less importance in Lublin area due to physiographical conditions. In group accommodation facilities there are 277 catering places – less than in 2000 (345). The majority are restaurants (83), bars and cafes (100). In Lublin Voivodship there are 4 spas (3 in Nałęczów and 1 in Krasnobród). In Nałęczów there is also a natural therapy centre. In these sanatoria there are 950 beds altogether (in 2000 – 832 beds). Moreover in Nałęczów i Adampol near Włodawa there are also spa hospitals, where there are 348 beds (in 2000 – 339 beds). Conference rooms (around 15) accommodating 150-250 people are situated in big cities and tourist centres e.g. in Lublin, Zamość, Biała Podlaska, Kazimierz Dolny and Puławy.

One of the elements that influence the attractiveness of Podkarpackie Voivodship is the dense network of tourist trails (228 trails of over 9500 km) which run through the most interesting areas, both naturally and historically. Ecological cleanliness of the region is an additional incentive to practice trekking tourism. A wide range of trails allows for active tourism: walking (90 trails), cycling (29 trails), horse riding and water sports, and additionally skiing in winter. In Podkarpackie Voivodship there are more than 2000 km of walking trails – in lowland and mountain areas. They run through the most attractive sites (mostly national and landscape parks, as well as nature reserves in the central and southern part of the region). There are many cycling trails of different difficulty level. In Podkarpackie there are

over 150 km of horse-riding trails, located mostly in Bieszczadzki National Park. Despite the great potential, the region misses marked ski trails (apart from one 9-kilometre long cross-country skiing trail in Wetlina). Three water-sport trails run across the region discussed, however they are not utilised (excluding the sections that run through Solina and Myczkowce lakes). Extensive and diversified sport and recreation offer is characteristic of Podkarpackie region. The following facilities can all be found in here: horse-riding centres, sport shooting range, climbing walls and even facilities for water and air sports. The highest level of tourist infrastructure is characteristic of Stalowa Wola county (140 facilities) and in the city of Przemyśl (106 facilities). In the voivodship there are 296 catering outlets and 76 catering spots, there are also 4 spas. International contacts are rendered by 16 border crossings (2 air border crossings, 5 road border crossings, 4 railway border crossings and 5 tourist border crossings).

The unique qualities of the environment, picturesque nature, historical locations and the developed network of tourist resorts and recreation areas are important factors in organization of holidays and recreation, development of tourism and creation of trips in the Volyn Oblast. Tourists are offered 9 routes presenting historical and cultural heritage of Volyn as well as horse-riding, scuba diving, sailing and rural tourism. The infrastructure of spas, sanatoriums and holiday resorts, of the Volyn Oblast is created by 84 complexes, which hosted 37.3 thousands visitors (October 2005 – September 2006). Many of these resorts have their distinctive offer for recreation and treatment. For instance a guesthouse “Shatskie ozera” (located by the biggest Ukrainian lake – Svytiaz), spa “Lisova Pisnya” (by Pisotchno Lake, with water having high concentration of silver and glycerine), spa “Prolisok” (in vicinity of a spring with therapeutic mineral water). The hotel network of the Volyn oblast is based on 28 hotels, the majority of which have modern conference rooms and enable to combine business meetings with pleasant leisure. At present, there are 1101 catering facilities, most of them in Lutsk, Kovel, Novovolyns’k and Volodimir-Volyns’kyi. Lutsk has the highest number of food serving places (60 bars and restaurants, 180 cafes, 40 coffee bars and 5 night clubs) and is among top five Ukrainian cities with the highest number of catering facilities capita. In Volodimir-Volyns’ky there are 5 snack-bars and 9 cafes. In Volyn oblast there are, altogether, 64 museum centres (natural, historical, artistic, military). Besides that there are two state historical and cultural open-air museums in Lutsk and Volodimir-Volyns’ky. The total number of the museum collections exceeds 200 thousands exhibits. More than 250 thousands people visits museums in the Volyn oblast each year. In Rokynya, 15 km away from Lutsk, there is the National Museum of the History of Volyn’ Agriculture in the open air. The road network in Volyn Oblast equals to 6199 km, including 752.6 km of national roads and 2134.5 km of regional ones. International roads count for only 9.2 % of the total length of all roads within the oblast. Volyn Oblast borders with Poland (230 km of the common border) and Belarus (206 km of the common border). On the Ukraine-Poland border there are two train border crossings (Jagodzin and Izovas) and two car border crossings (Jagodzin, Ustyluh). On the Ukraine-Belarus border there are four car border crossings (Domanovo, Dolsk, Piszcz and Pulemecas) and one for trains (Zabolocie). The network of retail establishments is rather well developed (1421 shops). Motorized people are served by 117 petrol stations.

Picturesque nature of Lviv region, unique tourist and recreation resources attract visitors seeking holidays and treatment. In 2006 in Lviv Oblast there were 139 sanatoria and natural

therapy centres, situated in famous spas – Truskavets, Morshyn, Shklo, Nemiriv, Velky Lubin and Schidnyca. The Oblast is ranked eighth among others in Ukraine in the total number of sanatoria and spa facilities, and when considering the number of sanatoria and sanatorium hotels it is ranked second just after the Autonomous Republic of Crimea.

In the recent years the development of hotel business can easily be noticed. The number of hotels in 2006 doubled as compared with 2000 and now equals to 110. One fifth of the hotels is categorised. There are four four-star hotels in the Oblast, twelve three-stars, five two-star hotels and one one-star motel.

Tourists and holidaymakers also have at their disposal a lot of restaurants the number of which, after a sudden fall, started to rise in 2004 and equals 2300 facilities (122 thousand seats). In 2006 the number of catering facilities in rural areas increased by 95 (16.8%). The above data do not include catering facilities that belong to legal persons. Their number increased four times as compared with 2001 and in 2006 there were 1825 seats (2.1% of the total number of legal persons).

In 2006 in the oblast there were 11 professional theatres (3.8 thousand seats), these included opera and ballet theatres, 4 drama theatres, 2 musical-drama theatres, 2 puppet theatres. In 2006 there were 2344 shows in the theatres watched by 399.2 thousand people (80 shows less and 35.9 thousand of drama viewers less than in 2000). In music halls of the oblast (e.g. philharmonic orchestras) there were 770 concerts altogether (145 less than in 2000), in which there were 121 thousand listeners. The museums of the oblast (17 facilities) were visited by 1,323 000 of people. At the beginning of 2007 in Lviv Oblast there were 9 border crossings, 4 international road crossings, 3 – railway crossings, 1 – air crossing and one pedestrian crossing. An average distance between the crossings is 77.4 km. In 2006 the number of crossings of the border increased by 11% as compared with the previous year.

In Zakarpatska Oblast there were 15 spas, 16 profilactoria, 3 pensions, 25 tourist stations. The most famous of these are: “Sonyachne Zakarpatska”, “Polyana”, “Krishtaleve Zridlo”, Kvitka Polonyny”, “Verchovina”, “Karpaty”, “Karpatska Perla“, “Synyak”, “Shayan”, “Horska Tisza”, “Kooperator”, alergologic hospital in Solotvina, “Kvasny Potok”, “Soleni Mlaky”, “Choven”, “Soymy”. The following theatres operate in Zakarpatska: Ukrainian music-drama theatre and puppet theatre in Uzhgorod, Russian drama theatre in Mukachevo and Hungarian theatre in Berehove. The total length of national borders in Zakarpatska amounts to 460 km. National border with Poland runs through the northern-west part of the Oblast and is 33.4 km long; Slovakian border is in the west and is 130 km long, border with Hungary in the south (130 km long), with Romania in south-east (205.4 km long). In the north and north-east, Zakarpatska Oblast borders Lviv and Ivano-Frankivsk Oblasts (180km). The total number of border crossings is 18, seven of these are railway crossings – with Hungary: Chop – Zahony, Salovka – Epereszke, with Slovakia: Chop-Cherna upon Tisza, Uzhgorod – Matiwici, with Romania: Djakove – Halmeu, Teresva – Campulung, Rakhiv – Sygod; seven air border crossings, one road crossing and three spots of simplified border crossings.

3.2 The development of tourism and recreation activities

3.2.1 Tourism movement

In the cross-border area in question the intensity of tourist traffic depends on many factors (organisational and administrative, economic, political) and fluctuates within years. Generally however, an increase in the interest in tourism movement (including international tourism) can be noticed, which is connected to the development of tourist infrastructure and the constantly developing range of services and offers. In general, Zakarpatska Oblast possesses the most accommodation sites (193), then Lviv Oblast (110) and Podkarpackie Voivodship (72); Lublin Voivodship and Volyn Oblast have the least accommodation sites (50 and 28 respectively). In 2006, Lublin Voivodship, similarly to Podkarpackie Voivodship, was visited by 564 thousand tourists (100 thousand foreign tourists), Volyn Oblast ranked the lowest with only 62 700 tourists.

According to Polish Institute of Tourism in 2000 Lublin Voivodship was visited by 3.6m tourists, out of which 1.5m were foreign tourists; in 2006 however, there were 3.3m tourists out of which 1.7m from abroad. According to the data concerning border crossings, there were 3.9m foreigners arriving in Lublin region. The total number of places in group accommodation facilities equals 19.8 thousand, out of which 10.5 thousand are year-round facilities (314 facilities including hotels, motels, pensions, youth hostels). In 2000 there were 359 accommodation facilities, which could place 23.3 thousand tourists. In Lublin Voivodship there are 215 agritourism farms, 20 of which are ecological ones (1563 accommodation places). In 2000 there were 196 farms of this type offering 1088 accommodation places. In sanatoria of Lublin region 20 thousand people are treated each year, additional 6750 are patients of spa hospitals.

In Podkarpackie Voivodship in 2006 there were 128 accommodation facilities (see: chart) of the total number of 9631 accommodation places. Additionally there were 1354 accommodation places in 8 spa facilities. In Podkarpackie region Lesko county is the region with the most accommodation places – 314 (181 in rural areas). The following counties also possess many accommodation facilities: Bieszczady – 110, Krosno – 122 and Sanok – 102. In 2003 in Podkarpackie there were 551 farms associated in agritourism associations. In 2004 the number of associated farms increased to 570. Tourist traffic in Podkarpackie Voivodship is typically characterised by seasonality. Over 60% of the annual tourist turnover accumulates in the summer season, especially during holidays. In 2006, Podkarpackie region was visited by 564 thousand tourists; 64 thousand of these were foreigners. The total number of accommodation places exceeds 201 thousand (out of which only 15 thousand are year-round places). In 2006, 1 629 396 accommodations were given, out of these 133 145 to foreign tourists. In 2006 over 14m people crossed the national borders of the voivodships.

In Volyn Oblast there are 27 hotel complexes and one pension (around 2000 accommodation places), which however do not meet the needs for accommodation for the increasing number of tourists. Whereas the number of catering and tourists facilities is constantly increasing. The oblast was visited by 62.7 thousand tourists i.e. 9.6% more than in 2005. Between October 2005 and September 2006, 37.3 thousand visitors were served by spas and sanatoria infrastructure of Volyn Oblast. There are 70 agritourism farm, and more than 200 operators of green tourism. The number of people who crossed the Ukrainian-

Polish and Ukrainian-Belarus borders amounted to 6.2 m (21% more than in 2005).

In the last 5 years Lviv Oblast saw an increase in tourist traffic and the development of tourist infrastructure. The city of Lviv is ranked 4th in the country in the number of national and foreign tourists' turnover (after Crimea, Kiev and Oddessa). Between 1998 and 2005 the number of tourists increased by a half. At the end of 2000-2006 period Lviv Oblast was ranked second, after Kiev Oblast, with respect to the number of existing hotel complexes. Among accommodation facilities in the oblast the majority were hotels (56.4%), similar situation is across the whole country (hotels make up 63.6% of all accommodation facilities). It is worth remembering that half of the total number of tourist accommodation facilities and youth hostels in Ukraine is located in Lviv Oblast. The majority of hotel complexes is situated in Lviv (29) and its vicinity (9). Many hotels operate in Zakarpatska Oblast (23). The total capacity of hotel complexes in 2006 was almost twice as big as in 2000. The number of tourist using the accommodation also increased (by 70%). At the beginning of 2007 there were 9438 accommodation places in the oblast. In 2006, 93.6 tourists were served in Lviv Oblast, 3.1% more than in 2005 but 21.3% less than in 2000. Above 8.4 thousand foreign tourists and 44.4 thousand Ukrainians visited Lviv Oblast through travel agents. Almost 40.7 thousand citizens of the oblast left abroad (data from 2006). In the last years the number of Ukrainian citizens' travels to neighbouring countries increased. Comparing with 2005 the increase was by 16.1%, however comparing with 2000 – 42.6%. The number of tourists travelling for health reasons also increased as compared with 2005 (an increase from 0.7% in 2005 to 4.9% in 2006).

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3.2.2 The main forms of tourism and recreation, and the prospects of their development

Various forms of tourism develop in the cross-border area. The following types of tourism are of key importance: holiday and excursions, medical tourism, nature tourism (hunting and fishing), business tourism. The number of international travels also increases (including the small border traffic) and village tourism (agritourism) gradually starts to develop; in Carpathians mountain tourism (skiing, hiking, cycling and horse riding) becomes popular. On the Ukrainian side there remained many centres of folk culture, which together with well-developed culture infrastructure (i.e. museums, theatres, philharmonic orchestras) allows for the development of culture-educational tourism.

In Lublin Voivodship the predominance of holiday tourism can easily be seen (temporary and recreational tourism), however there is also an increase in pilgrimage tourism (to Marian shrines in: Kodyń, Leśna Podlaska, Wąwolnica, Krasnobród, and to Orthodox shrine in Jabłeczna), tourism to national memorial centres (mostly to the extermination places of the 2nd World War: Majdanek, Sobibór and Bełżec), as well as in village tourism. The intensity of tourism is much greater in the hot season and is concentrated in the vicinity of Kazimierz Dolny and Nałęczów, Łęczna-Włodawa Lakeland and Roztocze, as well as in the historic cities (mostly Lublin and Zamość).

In Podkarpackie Voivodship a diversified development level of tourism is present. The diversity of tourist value and the differences in tourist and tourism-oriented infrastructure

results in differences in the intensity of tourist turnover, which is higher in the south of the voivodship (Bieszczady Mountains). Three regions can be distinguished when considering the differentiated tourist potentials (natural and culture, economic and organizational):

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- II) Southern region, comprising the following counties: Bieszczady, Lesko, Sanok, Jasło, Brzozów, Strzyżów. This area will be dominated by active and adventure tourism, as well as by culture tourism (of different kinds) and village tourism. It will offer a wide range of opportunities for both individual tourists (e.g. families with children) and organised groups (e.g. country sites used for school trips in the summer and winter seasons, integration and incentive trips).
 - III) Central region, to which the following counties belong: Dębica, Ropczyce-Sędziszów, Rzeszów, Łańcut, Kolbuszowa, Leżajsk, Przeworsk, Jarosław, Przemyśl and Lubaczów. The most distinguishing feature of this area is the accumulation of services for tourists that combine their stay in the region with the travel to South-East Europe. It is a logistic centre that serves both national and international tourists. This will demand the development of specialised travel agents, transport and insurance services, as well as accommodation and catering infrastructure, high-qualified guides and couriers.
 - IV) Northern region, comprising the following counties: Mielec, Tarnobrzeg, Stalowawola, Misko. It is an area of the former Central Industrial District, which is also of high natural value. There is a high potential for the development of active and specialised tourism.

Ancient Volhyn, the third part of which is still covered by forests as well as hundreds of rivers and lakes with cleanest in Europe water, has resources of therapeutic mud and mineral waters of four types, and is a remarkable land for all tourists. Historical and cultural heritage, preserved habits and folk traditions bewitch visitors from all over the world. Such situation creates privileged conditions for development and existence of different types of tourism such as treatment-leisure, cultural, natural, recreational-sport, hunting and also agri-tourism. First agri-tourist farms appeared in Volyn in 2001 in villages of Shats'k and Kivertsy rayons. Now over 70 agri-tourist farms welcome visitors in all rayons of Volyn oblast. An important task is to adapt for tourist purposes castles, monasteries and palace complexes. A number of such locations has advantageous geographical position (border areas and in close vicinity of international routs) and might be successfully used in tourist activities.

The most common reasons for tourist visiting Lviv Oblast are free-time activities and recreation (86.3%). Lviv region has a great potential for the development of spa tourism, but also skiing and mountain tourism. There are 4 ski resorts in the oblast: Slavsko, Tysovets, Rozluch, Turka. These resorts are equipped with specialised ski infrastructure: alpine slides, ski and slalom tracks, and also offer the conditions for hang gliding. Recently, village tourism has become more popular. The areas of priority for village tourism development are regions (agritourism villages) that neighbour national parks: "Skaliste Beskid", Yavorivski or that are situated within the limits of existing or planned regional landscape parks – "Nadsyansky Regional Landscape Park", "Znesinnya" and "Roztocze Rawskie". The development of village tourism and eco-tourism in the protected areas of Lviv Oblast involves the development of excursion business and adventure tourism (trekking, cycling and horse riding). Lviv Oblast is capable of developing pilgrimage tourism. Within its borders there remain a lot of sites of worship character. Following cities are characterised by high tourist potential: Zhovkva,

Belz, Bibrka, Zolochiv, Zhydachiv and Olesko. The most famous pilgrimage centres of the Oblast are: Krekhiv monastery – a monument of defensive architecture from 17th century, Univ monastery – a fortress which embraces a convent and Uspenskyi church.

The physiogeographical conditions in Zakarpatska Oblast facilitate the development of different forms of mountain tourism (including visiting karst and salt caves; holidays in the vicinity of waterfalls: Voyvodynskyy, Trofanets, Shypot, Horodylivsyy, Skakalo, Lypovetsky, Lumshorskyy, Mokryanskyy, Chortiv Mlyn) both in summer and winter seasons. Moreover, there are perfect conditions for the development of culture tourism (many wooden architecture buildings) and medical tourism.

The development of cross-border tourism (between Poland and Ukraine) may be hindered by:

- difficulties with obtaining visas,
- not enough border crossings and their low capacity,
- poor development of roads and concomitant infrastructure,
- insufficient level of informational and promotional support for tourism development,
- deficiency in the number of specialists of tourist management,
- low level of tourism services offer (including hotels offer).

III SWOT ANALYSIS

Polish-Ukrainian borderland is characterised by tourist, natural and culture values of European importance. Generally the strong points of this area are enormous cultural and ethnical diversity, just next to favourable location and high biodiversity. Presented below are the identified internal strengths and weaknesses of the area in scope of this study, as well as external opportunities and threats. In this way a SWOT analysis has been formed (an abbreviation of: STRENGTHS, WEAKNESSES, OPPORTUNITIES and THREATS)

Strengths	Weaknesses
■ well-developed educational field in high-level personnel training;	■ high percentage of rural population and their low education level;
■ a network of academic centres with a huge research potential, open to the cooperation with private and public sectors;	■ an increasing deficit in qualified personnel;
■ advantageous age structure;	■ not sufficient educational infrastructure of high schools and a divergence between the educational offer, as well as the process of education, and the demands of modern society;
■ fast development of the network and system of cross-border cooperation, including cooperation of twin cities and social initiatives;	■ old-fashioned equipment of educational facilities (school buildings demanding renewal and modernisation);
■ low costs of recruiting well-educated personnel;	■ low level of cooperation between educational, research, development and innovative institutions with economic layer;
■ mobility, adaptation, diligence and resourcefulness of the citizens of the area;	■ high level of unemployment among young people;
■ the development of the civil society, dynamic development of nongovernmental organizations;	■ low spatial and occupational mobility;
■ developing system of medical rescue;	■ high negative balance of migration; structural unemployment and its long-lasting – especially in the countryside;
■ favourable geographical location at the crossing of the main communication routes;	■ household impoverishment; low social and ecological awareness;

<ul style="list-style-type: none"> ■ high natural environment quality (a comparatively low level of anthropogenic transformation of biotic and abiotic elements) allowing for the development of different forms of tourism and recreation; 	<ul style="list-style-type: none"> ■ insufficient job opportunities in rural areas, especially for women;
<ul style="list-style-type: none"> ■ fertile soils; 	<ul style="list-style-type: none"> ■ low level of functioning of healthcare system;
<ul style="list-style-type: none"> ■ vast forest complexes, the development of balanced forest economy; 	<ul style="list-style-type: none"> ■ poor level of citizens' health, low level of awareness concerning health prevention and difficult access to healthcare services;
<ul style="list-style-type: none"> ■ large resources of mineral water; 	<ul style="list-style-type: none"> ■ natural threats (water and aeolian erosion; mass movement, floods);
<ul style="list-style-type: none"> ■ multicultural coexistence of historic heritage; the area of cohabitation and interpenetration of cultures that originate from East and West European civilisation; 	<ul style="list-style-type: none"> ■ poor resources of surface waters (rivers, lakes, water tanks) and their contamination;
<ul style="list-style-type: none"> ■ diversified and well preserved cultural environment (complexes of historic architecture and urban planning of international importance, folklore and traditional culture, century-old multicultural heritage, unique sacral and rural architecture) 	<ul style="list-style-type: none"> ■ poorly developed water-sewage infrastructure (especially in small towns and in rural areas);
<ul style="list-style-type: none"> ■ diversified tourist offers – targeted at enthusiasts of different types of holidays: culture enthusiasts, active holiday makers (including water sports and skiing), pilgrims and offer for hobbyists; 	<ul style="list-style-type: none"> ■ poorly developed system of municipal wastes and dangerous wastes disposal;
<ul style="list-style-type: none"> ■ potential for creating international packages of diversified quantity of products and projects; 	<ul style="list-style-type: none"> ■ old-fashioned and ruined irrigation system and water equipment; malfunctioning of irrigation systems;
<ul style="list-style-type: none"> ■ hospitality and friendly attitude of representatives of local societies towards tourists as well as high tolerance towards different nations, cultures and traditions; 	<ul style="list-style-type: none"> ■ increasing health risk in urban areas (noise, air pollution);
<ul style="list-style-type: none"> ■ well-qualified guides and tour operators, and the presence of training centres for tourism personnel; 	<ul style="list-style-type: none"> ■ vast area of degraded and mismanaged terrains abandoned by industry;
<ul style="list-style-type: none"> ■ comparatively well-developed field of agritourism; 	<ul style="list-style-type: none"> ■ inconsistent and incomplete network of protected areas;

	<ul style="list-style-type: none"> ■ poorly developed network of environment monitoring and control (especially in Ukraine);
	<ul style="list-style-type: none"> ■ small number of tourist products and packages;
	<ul style="list-style-type: none"> ■ no offers for transit tourists (unused potential);
	<ul style="list-style-type: none"> ■ insufficient tourist information about the region (printed and online publishings) and too few tourist information centres, their uneven distribution and insufficient flow of information among them;
	<ul style="list-style-type: none"> ■ unevenly distributed accommodation facilities, low standard of services in some of the facilities;
	<ul style="list-style-type: none"> ■ few border crossings, lack of crossings of the so-called small border traffic and tourist border crossing;
	<ul style="list-style-type: none"> ■ difficult access to communication in many tourist regions;
	<ul style="list-style-type: none"> ■ poorly developed tourist-oriented infrastructure;
	<ul style="list-style-type: none"> ■ poor conditions of many sites;
	<ul style="list-style-type: none"> ■ lack of councils' enthusiasm to develop culture and tourist sectors, as well as general lack of willingness to develop enterprises promoting culture and its values;

Opportunities	Threads
<ul style="list-style-type: none"> ■ fast developing sector of high education and gradual integration of this sector with European educational system (as part of European Education Area); 	<ul style="list-style-type: none"> ■ unfavourable demographical trends (aging of society and gradual depopulation of the area);
<ul style="list-style-type: none"> ■ increasing level of education of the population, which will be the basis for the development of knowledge-based economy; 	<ul style="list-style-type: none"> ■ large percentage of people in working age and non-productive age;

<ul style="list-style-type: none"> ■ the development of technology transfer from high schools to enterprise sector; using R&D potential, creating a network of technological centres; 	<ul style="list-style-type: none"> ■ increasing personnel drain (negative migration balance and preserved tendency for young and well educated people to leave the region)
<ul style="list-style-type: none"> ■ adjusting the vocational and higher education to the demand of job market; 	<ul style="list-style-type: none"> ■ consolidation of high level of people not professionally active, persisting poverty;
<ul style="list-style-type: none"> ■ the development of infrastructure and services of information society; 	<ul style="list-style-type: none"> ■ unequal access to education and job market as a source for further impoverishment and exclusion of society;
<ul style="list-style-type: none"> ■ the access to the instruments and carrying-out means of structural and horizontal policies of EU, including the ones concerning tourism and environment protection; 	<ul style="list-style-type: none"> ■ difficulties resulting from ambiguous competences and finances of municipal units of Ukrainian oblasts, which results in them being highly dependent on governmental administration;
<ul style="list-style-type: none"> ■ increasing importance of human resources and their mobility, interest in cross-border cooperation; 	<ul style="list-style-type: none"> ■ Poland entering Schengen Area; difficulties in cross-border contacts with countries from outside EU;
<ul style="list-style-type: none"> ■ increasing activity, potential and competences of non-governmental organizations and increasing importance of their international contacts; 	<ul style="list-style-type: none"> ■ political instability;
<ul style="list-style-type: none"> ■ unification of nature preservation systems and the development of environment monitoring ; 	<ul style="list-style-type: none"> ■ increase in natural and anthropogenic threats for environment (green-house effect, deterioration of water balance, cross-border pollution);
<ul style="list-style-type: none"> ■ using high natural and cultural values of the region in the development of different types of tourism; 	<ul style="list-style-type: none"> ■ differences in regulations of environment and nature protection and their instability (frequent amendments);
<ul style="list-style-type: none"> ■ „Euro 2012” as a chance to develop infrastructures of environment protection and tourism, 	<ul style="list-style-type: none"> ■ threats for biological diversity of the region (urbanisation and buildings scattering, transport, eutrophication, soil contamination, settlement and ecosystem fragmentations);
<ul style="list-style-type: none"> ■ perspective of high funds on structural changes in agricultural economy and multifunctional development of rural areas which take into consideration preserving the nature and culture values (agri- and ecotourism); 	<ul style="list-style-type: none"> ■ cross-border movement of pollutions (wastes, dangerous materials, foreign species of fauna and flora, etc) and old technologies transfer;

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<ul style="list-style-type: none"> ■ consolidating positive trends in tourism: increasing tourism activity and interest in Central and Eastern Europe as journey destinations, growth of interest in active leisure and agritourism, increasing demand for weekend trips, development of family tourism; 	<ul style="list-style-type: none"> ■ lack or misuse of funds for implementing tasks concerning environment protection and education, tourism and recreation;
<ul style="list-style-type: none"> ■ creating and launching the image of a new tourist area: “the Carpathians”; 	<ul style="list-style-type: none"> ■ „Euro 2012” (increasing transport intensity, pollution, increase in tourism traffic);
<ul style="list-style-type: none"> ■ Ukraine’s pro-European attitude which allows for joining EU and opening the borders on the basis of Schengen Agreement; 	<ul style="list-style-type: none"> ■ competition from tourist regions in Europe;
<ul style="list-style-type: none"> ■ the development of cross-border cooperation on the basis of „Euroregion Bug” ; 	<ul style="list-style-type: none"> ■ increase of threads due to functioning of the outer EU border between Poland and Ukraine: emigration from the east, smuggling of products, international crime;
<ul style="list-style-type: none"> ■ implementing statutory, unified standards in tourism; 	
<ul style="list-style-type: none"> ■ preserving and developing culture wealth; strong culture bond and folk traditions of the cross-border societies (regionalism cultivation); 	
<ul style="list-style-type: none"> ■ consolidating economic boom, an increase in the wealth of regional society; 	
<ul style="list-style-type: none"> ■ increase and consolidation of fashion and demand for ecotourism among EU societies; 	

PRIORITIES AND OBJECTIVES OF THE STRATEGY OF POLISH-UKRAINIAN CROSS-BORDER CO-OPERATION

SUPERIOR (MAIN) OBJECTIVE

Acquiring sustainable, future-oriented development that will be appealing on the levels of quality of life, social equality, natural environment, cultural heritage, partnership co-operation and good neighbourhood in the Polish-Ukrainian borderland.

PRIORITY 1. Sustainable management of space and natural resources.

Priority description

Natural conditions and the state of environment, as well as spatial planning, determine the quality and appeal of the Polish-Ukrainian cross-border area. The state of environment is greatly influenced by the level of region's equipment in technical infrastructure concerning environment protection, as well as by actions undertaken in order to preserve and restore the areas, which perform important ecological functions. From the diagnosis conducted it is clear that in the cross-border area there are large disparities between rural and urban areas concerning environment protection infrastructure. Cities usually possess a better developed water and sewage infrastructure and well-organised waste disposal system. Municipal and industrial waste disposal is another significant task that demands thorough organisation. The existing method of waste management, consisting in their disposal in rubbish dumps, should be altered into one that would allow for an effective reduction of the flow of wastes produced as well as for salvaging materials and energy from wastes. An important issue is to guarantee ecological safety to the inhabitants of the region, this includes lowering the risk of floods in the region. Apart from engineering works (building embankments), spatial planning should play an important role in this matter. Ecological education of the society should become an integral part of all the environmental protection planning. Assuring the participation of borderland society in environmental matters will in turn increase their interest in ecological issues and at the same time will bring about appropriate care for their surroundings.

All the actions within the framework of this priority will influence minimising environmental hazards, especially those concerning surface and underground waters and soils. Moreover, the system of nature protection will be strengthened. Unification of monitoring researches and mutual exchange of information concerning potential environmental hazards will take place. Conducting joint environmental researches and implementing integrated system of environment management will lead to lowering the number of noxious processes and environmental hazards. Rational, sustainable-development based natural resources management and improvement in the state of environment will have a positive impact on the image and tourist attractiveness of the region and will increase quality of life of region's inhabitants.

Objective 1. Development of environment protection infrastructure.

The development of technical infrastructure for environment protection will assure better quality of basic environment, lowering the external environmental costs and will allow for fulfilment of a wide range of international commitments concerning environmental standards.

Within the framework of the objective tasks concerning water-sewage management should also be accomplished, aiming at assuring efficient and effective systems of water supply and collecting and purifying municipal sewages, including rural areas. Support will also be provided in the field of documentation needed for project application and implementation (technical documentation for projects).

Another important issue is reducing the amount of municipal wastes stored and increasing the percentage of recycled materials and materials neutralised by means of methods other than their storage, as well as eliminating hazards that result from wastes storage (this includes dangerous wastes). The following activities will then be supported: preventing and reducing wastes production, implementing new salvaging technologies, e.g. recycling, and eliminating hazards that result from wastes storage and degraded lands remediation. Activities concerning remediation will involve restoration of the natural topography and balancing the concentration of substances in soils and earths to standard levels.

Operational objectives:

- 1.1 Modernisation and development of water and sewage systems.
- 1.2 Developing modern system of managing municipal, industrial and dangerous wastes.

Objective 2. Streamlining water economy and developing water retention.

The diagnosis points out to limited water resources of the region, high risk concerning the inappropriate conditions of facilities used for water retention and fire protection. Implementing that objective leads to assuring the adequate amount of water reservoirs for people's and industry needs and diminishing the consequences of negative natural phenomena. In particular this concerns preventing floods, limiting water shortages and supporting decision processes by supplying reliable information about the functioning of water environment.

The amount of discretionary resources that are essential both for population and industry of the Polish-Ukrainian cross-border area will increase, together with the level of fire safety. Special attention will be paid to activities concerning renaturalisation and increasing natural retention of river valleys. Spatial planning, by means of which good ecological shape of valleys should be kept, plays an essential role in this matter. The existing water melioration system of the cross-border area will be examined and modernised so that it complied with ecological requirements and multifunctional purposes. Flood-control will be carried out in such a way to conform to Framework Water Directive and taking into account limitations resulting from the existence of "Natura 2000" areas. Warning and monitoring systems will be improved and so will the system of water resources management of the borderland.

Operational Objectives:

- 2.1 Using the water resources of the region in rational economic development (tourism and recreation, agriculture, forestry, etc.)
- 2.2 Fire protection
- 2.3 Modernising melioration systems and developing water retention.

Objective 3. Health risk prevention and raising quality of life.

Realisation of this objective will result in developing protection against the natural dangers (excluding floods), co-operation in disaster recovery and restoring environment to appropriate state. This mainly concerns preventing erosion processes and massif movements and managing crisis situations, which may result from climate changes. Support will be given to research projects that involve methods of analysis and prognosis of natural risks. Moreover, support will be given to solutions and activities that aim at protecting acoustic climate of urbanised terrains. Improving air quality in urbanised areas involves actions limiting the intensity of car traffic (proposing and development of public transport), limiting the so-called low emission, saving energy (e.g. building thermo-modernisation), using low-emission fuel combustion technologies in public buildings and alternative sources of energy. Carrying out activities within the framework of this objective will limit life and health threads for inhabitants of the region and will also improve the level of life, especially in urban areas. Undertaken actions add up to the long-term strategy of preventing climate changes.

Operational Objectives:

- 3.1 Regional co-operation within natural disasters prevention.
- 3.2 Limiting risks resulting from excessive noise emission.
- 3.3 Improving atmospheric air quality in urbanised areas.

Objective 4. Protecting biological diversity and maintaining regional landscape values, as well as strengthening the system of protected areas.

Polish-Ukrainian cross-border area is characterised by high environmental values, which should be preserved for current and future generations. Effective protection and management of natural heritage, including environmentally valuable areas demand coordination and undertaking joint activities, especially in the areas where borderlines run (e.g. International Biosphere Reserves). Carrying out activities within the framework of this objective will allow for identification of high-value areas and for subjecting them to appropriate forms of protected areas. The network of connections between the protected areas will be strengthened (restoring ecological corridors permeability) and so will the development and management of these areas.

Important task will also be restoration of natural habitat (ecosystems) and species' sanctuaries in the areas protected entailing preservation of endangered species and genetic diversity of plants, animals and fungi. Methods for limiting animate nature degradation will be worked out, as well as methods for limiting losses in biological diversity resources in



economic activity. Realisation of this objective will also contribute to determining a unified network of Natura 2000 areas in the Polish-Ukrainian cross-border area. Yet another important element of these activities will be altering social attitudes into more environment-protection-oriented. The activities described are concomitant with the aims of International Convention on Biological Diversity Protection.

Operational Objectives:

- 4.1 Co-operation in managing International Biosphere Reserves.
- 4.2 Co-operation in implementation of Natura 2000 programme.
- 4.3 Promoting activities aiming at preserving areas of special landscape values.
- 4.4 Creating database of areas of high natural and landscape values.

Objective 5. Strengthening the system of environment protection management and forming ecological awareness of region's inhabitants.

It is clear from the diagnosis that the range and quality of environmental information is different on Polish and Ukrainian side of the cross-border. Dissimilar procedures of monitoring and research methods do not facilitate unified and effective management of the information gained. Realisation of this objective will conduce to harmonising and alleviating the functioning of environment monitoring system and to facilitating access to environmental information. Active participation of cross-border society in solving ecological problems will increase their ecological awareness, appropriate pro-ecological attitudes will be formed, and the need to implement suitable methods for environment, nature and landscape protection will be exposed. Education in the field of environment protection should be conducted on wide scale and should include all age-groups of the cross-border community. Actions within this objective allow realising international commitments, especially Aarhus convention.

Operational Objectives:

- 5.1 Unification of environmental monitoring system.
- 5.2 Informing, making public and providing access to the information about environment
- 5.3 Developing ecological education.
- 5.4 Increasing the participation of society in activities aiming at environment protection.

PRIORITY 2. Cross-border social integration and improving living conditions of the inhabitants of the cross-border area

Priority description

All of the following actions are essential in securing sustainable development: strong co-operation among people living in the cross-border area, solving social problems, creating attractive living conditions, supporting local markets and promoting development initiatives on different levels. Both countries constituting the cross-border region have very strong cultural bonds and common historical periods. As shown in the state diagnosis,

the borderland is characterised by educated population, especially in urban areas, many educational and scientific institutions of different levels and a comparatively cheap labour force. However standards of life are relatively low: the region copes with social problems, poorly-developed monetary basics in educational and healthcare institutions, lack of attractive jobs and professions for young people and high unemployment rate on Polish side. Thus, axis of priorities will aim at supporting social bonds that are an essential element of social integration. This priority will be carried out by realising assigned strategic objectives, which will be the basis for determining main directions within the scope of operational objectives.

Objective 1. Supporting the integration of education and job markets.

The diagnosis of social situation proved that the cross-border region is one of the regions where there occurs a gradual outflow of young and educated population to the regions of better-developed economy. This phenomenon has a negative influence on the economic development of the cross-border area. Due to unfavourable job market situation on both sides of the border, systemic solutions that will contribute to forming new jobs and improving the situation on the job market should be supported. Within the framework of this objective the co-operation between job market institutions and entities on the job market should be promoted and developed, including activities aiming at supporting people that return to the job market, as well as preventing the phenomena of social exclusion (e.g. supporting cross-border networks in favour of providing access to and allowing for the exchange of information about possibilities of finding a job in the cross-border area; forming information spots, etc.). Activities undertaken in the sphere of equality of chances or preventing discrimination play an important role on the job market. It is also essential to provide long-term comprehensive and vocational education on high level, which is a key factor in effective socio-economic development of the region. Achieving this aim will be possible by means of wide spectrum of activities in comprehensive, vocational and tertiary education, as well as in trainings. Building language and intercultural competences are also important for cross-border integration. Actions aiming at developing co-operation in education will be supported; these include preparation for work and implementation of continuing education. Special attention will be paid to educational actions supporting the development of information society.

Operational objectives:

- 1.1 Creating permanent cross-border co-operation network of labour institutions.
- 1.2 Conducting research and analysis, forming and developing common system for monitoring and predicting job market situation (with special attention to regulations resulting from Schengen Area and low-level cross-border traffic).
- 1.3 Developing human resources as a common potential; this includes developing common educational and scientific enterprises, as well as social and vocational integration of the inhabitants of cross-border area.
- 1.4 Creating the opportunity to conduct researches in the functioning area of educational system, educational effectiveness and adjusting its range to the needs of job market, paying particular attention to social groups vulnerable to marginalisation.

Objective 2. Building up attitudes for cross-border co-operation in the field of healthcare, social assistance and active social policy.

Health condition of the inhabitants of the cross-border area is much worse than the average in both countries. Much higher morbidity and mortality rates due to cancer and circulatory system diseases are observed in the region. Prevention and facilitating accessibility to healthcare services together with simultaneous improvement of care quality are essential elements of socio-economical development and significantly influence the sense of social safety. The development of prevention as well as of healthcare market, both: basic and specialised, adjusted to changing demands will allow for improvement in living conditions in the cross-border area. Undertaking actions that allow for creating conditions facilitating launching different forms of social assistance over depended people, e.g. over the elderly or disabled, is an important matter in preventing and diminishing the effects of negative phenomena of exclusion and marginalisation. Thus, supporting institutional activities is needed as well as creating conditions favouring the development and effective activity of non-governmental institutions that perform social aims.

Operational objective:

- 1.1 Co-operation in practical education of profession together with Polish and Ukrainian institutions, in the fields of: healthcare services and caring for elderly and disabled people.
- 1.2 Propagating forms of active integration and social work.
- 1.3 Developing public-private partnership that will focus their activity on excluded people, exchanging and popularisation of good practice.
- 1.4 Organising a common integrated system of medical rescue.

Objective 3. Local society initiatives, promoting social integration.

Strategic objective aims at strengthening the co-operation of local societies, non-governmental organisations, administrating structures and socio-economical partners, in founding new network of structures of cross-border co-operation, as well as creating a dynamic, educated, safe and healthy society. This goal will be accomplished by implementing joint activities in education, healthcare and social assistance. Actions aiming at improving quality of education, widening access to continuing education and at providing high-quality healthcare and social services will be essential. At the same time the development of cross-border job market will contribute to lowering the unemployment rate in the region and to improving the integration of marginalised groups. Exchanging experiences will contribute to promoting equality of chances, increasing the mobility and flexibility of labour force, strengthening the workers' adaptable skills to the needs of job market. Establishing and strengthening direct connections will contribute to improving social partnership, which will result in strengthening social cohesion, increasing incomes of local societies and developing attractiveness of the cross-border region as a dynamic area offering interesting possibilities of professional development.

Operational objectives:

- 1.1 Establishing and strengthening direct connections between Polish and Ukrainian societies of cross-border areas.
- 1.2 Creating the basis for preparation of innovative and pilot projects focusing on exchanging good practices.
- 1.3 Forming subject network and partner co-operation groups.
- 1.4 Promoting and exchanging experiences in voluntary work as a form of integration of disfavoured social groups.

Priority 3. Supporting tourism development and protecting cultural heritage.

Tourist values are an important asset of Polish-Ukrainian cross-border region. It is predicted that tourist sector will in future be one of the pillars of regional economies. Creating common tourist offer that contains many forms of tourism and recreation will create the possibility for activating local entrepreneurs and self-government authorities and will allow for undertaking a wide range of activities of scientific, educational and marketing character. Realisation of this priority will also allow for acceleration of development pace of rural areas, where the majority of environmentally or culturally attractive places is situated. Within the priority axis programme of development and modernisation of tourist and tourist-oriented infrastructure will also be carried out. Undertaken actions should be consistent with the principles of sustainable development and observing rules of environment protection.

Objective 1. Identification and development of Polish-Ukrainian cross-border region as a uniform tourist region.

Polish-Ukrainian cross-border region is characterised by high tourist potential, which is not however entirely recognised. Identifying and comparing the most important values will allow for creating a unique, integrated tourist offer and promoting this area in Europe and in the world.

Cross-border area has a large tourist attraction potential. Landscape and environmental values of a few geographical regions on both sides of the border are similar: Lubelskie Polesie and Volyn Polesie, West-Volyn Upland and Volyn Upland as well as Roztocze, spreading from Kraśnik to Lviv.

Cultural heritage of the borderland results from long common history. In the cross-border area there are many objects of cultural heritage, both sacral and secular, which mirror the co-existence of many religions and nations. On both sides of the border, there remained monuments of spiritual and architectural heritage of Catholic, Orthodox and Uniate churches as well as of Judaism, Islam, Armenian and Evangelic-Augsburg churches. Among the more interesting secular monuments there are prehistoric and historic sites, defensive posts, court and palaces – sometimes belonging to the same families in Poland and Ukraine, urban complexes, single buildings of rural and urban architecture.

The most important tourist attraction can be the basis for forming a group of tourist products, which should be spatially connected in Polish and Ukrainian territories. Even today,

the identification of cross-border area as a uniform tourist region is essential, as Ukraine's entrance to European Union will facilitate the access of tourists from the two countries as well as from other areas, to new, interesting and competitive tourist region in Europe.

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Operational objectives:

- 1.1 Forming attractive and unique, integrated tourist offer on the basis of the existing potential of cross-border region.
- 1.2 Developing the existing common tourist products.
- 1.3 Forming new integrated tourist products and transforming attractive sites into tourist products.

Objective 2. The development of integrated marketing and promotion system of Polish-Ukrainian cross-border region in Poland, Ukraine and abroad.

Currently, marketing plays an important role in promoting tourist products. Realisation of this objective will allow for undertaking common marketing actions in the field of research and practice and for creating a unified tourist brand of the cross-border area. Moreover, activities aiming at development and improving tourist information system will be strengthened. Additionally, access to different information materials from tourist sphere will be propagated.

Priority objective can be implemented if Polish-Ukrainian cross-border area conducts joint tourist promotion of the products on offer. Marketing activities should be based on the strategy of common goals with the use of modern instruments and research techniques. Up till now such activities were rare.

“Noting about us without you” – such a working motto should be given to joint marketing actions, which means that on promoting Polish tourist products, Ukrainian products should also be advertised and vice versa. It would be the best if these were products of regional, cross-border character.

Promotion stands on local, national and international tourist fairs should have a common signboard and a logo of cross-border region. Promotional publishing, both in print and multimedia, advertising tourist cross-border products, which are issued in Poland and Ukraine, should be mutually edited and consulted, marked with logo of the region.

Operational objective can only be met if the region becomes recognisable by the tourists in Europe.

Operational objectives:

- 2.1 Creating a brand of cross-border tourist region.
- 2.2 Development of cross-border tourist information system and ensuring good accessibility to tourist information.
- 2.3 Realisation of joint marketing actions considering market research.

Objective 3. Sustainable development and spatial management of cross-border tourist region.

Tourist sector functions effectively if there are good communication conditions and well-organised tourist infrastructure. However, tourist infrastructure development should be consistent with principles of ecological policy, requirements of environment and landscape protection and in accordance with rules of developing spatial order. In this context it is important to strengthen spatial management in scope of tourism and recreation development.

Cross-border tourist region possesses extraordinary tourist values, especially in the lakeland areas as well as in Carpathians, Roztocze and Bug River Valley. The abovementioned areas are subject to different types of environment protection, and their high values attract increasing number of tourists. There is a need to develop and implement methods contributing to establishing sustainable development that will be consistent with requirements of spatial order, and spatial and communicational management. Common communication system is also needed, from road network, through appropriate infrastructure of border crossing, roadside car parks in tourist destinations, tourist trails specially adjusted to tourists' needs and carrying capacity of environment, to natural educational trails equipped with necessary technical infrastructure.

On developing tourism in the cross-border area of Poland and Ukraine, both of the following should be taken into consideration: directed research and field studies, conducted jointly, as well as binding spatial development plan of the cross-border regions. As a result of implementing these activities communication accessibility to sites and areas popular among tourists will improve, and new possibilities of tourism penetration will appear.

Operational objective:

- 3.1 Increasing the communicational accessibility of the region and tourist sites.
- 3.2 Development of tourist infrastructure and accompanying infrastructure, according to the sustainable development principles.
- 3.3 *Environment protection and preserving historic and cultural landscapes.*

Objective 4. Preparing highly-qualified professionals for tourism management as well as managers for cross-border tourism.

Educational system and ways of appointing professionals for tourism management are different in Poland and Ukraine. There is no higher school or post-maturity-exam school which would lead cross-border tourism studies.

Preparing well qualified professionals-managers of cross-border tourism becomes a priority task. This objective can be carried out in two ways. First of all, a system and programme of trainings for both, Polish and Ukrainian candidates, should be formed; secondly, together with the development of cross-border tourism, there will be more and more people who have become professionals through their own practice in organising and managing cross-border tourism. Actions aiming at preparing personnel for tourism should focus on the first method.

Educating personnel should be carried out on different group levels: self-governmental, university, school, as well as vocational e.g. among service providers, including agritourism farms owners.

This objective should be implemented as one of the first ones and based on separate strategy and essential financial support from European Union.

Operational Objectives:

- 4.1 Increasing qualifications of tourism personnel and forming pro-tourism attitude of borderland inhabitants.
- 4.2 Preparing new specialists from tourism management and highly-qualified specialists for higher schools in order to educate tourism personnel.
- 4.3 Conducting joint research in tourism.

Objective 5. Forming strong and integrated institutional surrounding of tourism development at the Polish-Ukrainian borderland.

Institutional surrounding of tourism development in Polish-Ukrainian borderland conditions the effective functioning of tourism sector. Therefore, it is very important to develop co-operation on the field of tourism between adequate councils of self-government level and social organisation of the cross-border area. An important role in positively modifying region's economy should be played by culture sphere and cultural heritage. Both, the richness of cultural traditions and clean environment, which constitute region's potential, need constant care and protection from council and society. Assuring the appropriate condition of cultural goods and their effective promotion are a long-term investment, which constantly demands involvement of many institutions. Exchanging experiences and co-operation between tourist enterprises from the region will be of great importance in achieving this objective. It will allow for working out good practices and high standards, and for increasing the level of tourist services offered.

On the basis of already-gained experiences, the increasing interest in co-operation in the development of cross-border tourism can be seen; this concerns national governments, local councils and representatives of tourism service sector. However, not all representatives of self-government display great interest; this is especially so with representatives of the lower level, e.g. communes. It is clear from opinion polls that the most interested in cross-border tourism development are the authorities and societies of communes that are situated in frontier zone or in close proximity to transit routes, which run straight to border crossings. Among the representatives of tourist sector, the level of interest depends on the business profile and benefits resulting from it, e.g. owners of accommodation facilities in the frontier zone and next to transit routes display great interest, whereas other owners – much lower interest.

Unfortunately, among Polish travel agents' only few (10 – 15%) organise tourist trips to Ukrainian part of the cross-border area, whereas among Ukrainian travel agents' there is a twice or three times higher interest in trips to Polish cross-border region.

The most difficult barriers to changing this state of affairs are permanent troubles with crossing the borders. Other problems are low demand and insufficient promotion of cross-border tourist products.

Operational objectives:

- 5.1 Strengthening the co-operation between Polish and Ukrainian self-governmental and social institutions, and the cross-border co-operation in the field of tourism.
- 5.2 Increasing authorities' interest and readiness to support entrepreneurship in cultural and tourism spheres, as well as strengthening the care over cultural goods and effective promoting of cultural values.
- 5.3 Development and co-operation of tourism enterprises of cross-border region, creating tourism cluster.



INDEXES- ECOLOGY (OVERALL REPORT FOR ANALYSES, SUPPLEMENT AND VERIFICATION)

		2000	2001	2002	2003	2004	2005	2006
	Waters							
	units of measure							
1.	Surface waters (in total)	ha						
	Lubelskie Voivodship	14814	15355	15875	16360	17152	17485	17941
	Lubelskie US 2007	37774	37932	21081	20491	20729	19957	19865
	Podkarpackie Voivodship	27991		21124	21565	20399	19694	19477
	Volyn Oblast	45500	45500	45500	45500	45500	45600	45600
	Lviv Oblast	42600	42500	42600	42800	42700	42700	42700
	Zakarpatska Oblast	1 560	1 560	1 560	1 560	1 560	1 560	1 560
2.	Exploitation resources of underground waters	hm ³						
	Lubelskie Voivodship				1127.4	1137.7	1142.8	1149.6
	Podkarpackie Voivodship					501.4	502.3	503.3
	Volyn Oblast						62.04	62.00
	Lviv Oblast							133
	Zakarpatska Oblast					39.95	38.18	39.08
3.	Consumption of water for national economy and population purposes	hm ³						
	Lubelskie Voivodship	366	345	344	314	355	364	378
	Podkarpackie Voivodship							
	Volyn Oblast	54.00	48.00	43.1	44.99	50.4	57.00	55.1
	Lviv Oblast			295.9	272.2	259.86	202.8	244.5
	Zakarpatska Oblast							
	AIR							
1.	Emission of air pollutants from specially noxious factories (gases excluding CO ₂)	tons/year						
	Lubelskie Voivodship	4574578	4292741	5203813	5127952	5287938	5283674	5078586
	Podkarpackie Voivodship					25331	26680	25842
	Volyn Oblast	42300	45000	43800	43500	51700	50400	56800
	Lviv Oblast	108600	114600	97500	96100	89900	95822	110631
	Zakarpatska Oblast	7700	7800	7800	12500	9617	26581	25630
2.	SO ₂	tons/year						
	Lubelskie Voivodship	21834	21259	21346	18643	19038	19103	18581
	Podkarpackie Voivodship		15 900			13762	14576	14123
	Volyn Oblast	2100	2000	1700	1100	1400	1600	1300
	Lviv Oblast	48480	52520	45640	43230	37900	40629	46219
	Zakarpatska Oblast					360	327	271
3.	NO _x	tons/year						
	Lubelskie Voivodship	10518	9178	9718	9993	11083	10803	9874
	Podkarpackie Voivodship		7 400			6239	6466	6514
	Volyn Oblast	1000	800	700	800	800	700	800
	Lviv Oblast			7800	8800	7700	8272	8982
	Zakarpatska Oblast					3684	3562	2818
4.	CO ₂	tons/year						
	Lubelskie Voivodship	4 533 80	4254946	5164905	5090796	5249655	5245365	5041535

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	Podkarpackie Voivodship		2 470			3511526	3492763	3567680
	Volyn Oblast	3400	3100	2800	2600	1600	1600	1600
	Lviv Oblast			7400	9600	8200	8669	9536
	Zakarpatska Oblast					862	837	692
5.	Emission of air pollutants from especially noxious factories (dusts) tons/ year							
	Lubelskie Voivodship	8033	7196	7294	6878	6681	6732	5463
	Podkarpackie Voivodship					3530	3880	3208
	Volyn Oblast							
	Lviv Oblast	30600	27800	20000	18300	16750	17790	20120
	Zakarpatska Oblast					945	1095	959
6.	Number of factories noxious to air purity, emitting dusts and gases tons/ year							
	Lubelskie Voivodship	95	97	102	106	102	103	106
	Podkarpackie Voivodship		129			87	85	88
	Volyn Oblast thousand tons	10.3	8.7	7.6	6.6	8.5	10.1	12.2
	Lviv Oblast							
	Zakarpatska Oblast	12						7
	WOODS							
1.	Areas of wodlands ha							
	Lubelskie Voivodship	558892	561674	564532	565755	567326	567725	?
	Podkarpackie Voivodship	685029		684444	685681	691248	695322	697788
	Volyn Oblast	-	689600	690500	690800	690900	691800	693000
	Lviv Oblast	680000	680100	683100	692000	692600	693300	693800
	Zakarpatska Oblast	718500	719300	720300	720500	723000	724200	735200
2.	Woodiness %							
	Lubelskie Voivodship	22	22.2	22.3	22.4	22.3	22.4	22.5
	Podkarpackie Voivodship	36.3	36.3	36.4	36.4	36.5	36.6	36.8
	Volyn Oblast	-	34.2	34.3	34.3	34.3	34.3	34.3
	Lviv Oblast	31.1	31.1	31.3	31.7	31.7	31.8	31.8
	Zakarpatska Oblast	56.2	56.4	56.5	56.5	56.7	56.8	57.6
	MUNICIPAL INFRASTRUCTURE							
1.	Length of waterworks in operation km							
	Lubelskie Voivodship	14814	15352	15875	16360	17152	17485	17941
	Podkarpackie Voivodship					12213.1	12492.7	12676.9
	Volyn Oblast	1441.4	-	-	1496.7	1553.7	1567.8	1615.6
	Lviv Oblast	4566	4702	4703	4815	4734	4729	4809
	Zakarpatska Oblast							
2.	Length of sewage system in operation km							
	Lubelskie Voivodship	2380	2564	2750	2953	3183	3366	3652
	Podkarpackie Voivodship					8017.6	8786.4	9283.3
	Volyn Oblast	301.6	-	-	302.9	304.6	306.6	314.1
	Lviv Oblast	1540.5	1599.9	1650.6	1700.7	1729.5	1645.6	1654.8
	Zakarpatska Oblast							
3.	Population using sewage system (city) %							
	Lubelskie Voivodship	79.9		83.5	83.7	84.4	84.9	85.1

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	Podkarpackie Voivodship	80.4	80.6	81.7	82.1	82.6	83.2	83.6
	Volyn Oblast	70.3	-	-	71.0	72.1	72.4	72.7
	Lviv Oblast	82.1	82.8	84.1	83.6	83.6	83.1	82.2
	Zakarpatska Oblast							
4.	Population using sewage system (countryside) %							
	Lubelskie Voivodship				8.4	9.3	10	?
	Podkarpackie Voivodship		16.1					
	Volyn Oblast	11.0	-	-	12.6	13.9	15.7	18.2
	Lviv Oblast	7.5	7.2	8.3	8.4	9.6	10.7	11.3
	Zakarpatska Oblast							
5.	Population using waterworks (city) %							
	Lubelskie Voivodship	89		92.7	92.8	93.1	93.3	93.4
	Podkarpackie Voivodship	88.1		90.5	90.7	91.0	91.4	91.5
	Volyn Oblast	72.0	-	-	72.5	73.6	73.9	74.4
	Lviv Oblast	82.3	83	84.1	83.6	83.6	83.1	82.2
	Zakarpatska Oblast							
6.	Population using waterworks (countryside) %							
	Lubelskie Voivodship				64.3	65.6	66.1	?
	Podkarpackie Voivodship							
	Volyn Oblast	15.7	-	-	17.1	18.6	21.0	22.3
	Lviv Oblast	10.5	10.2	10.8	11.1	12.1	13.7	14.3
	Zakarpatska Oblast							
7.	Industrial and municipal sewage channelled to waters or grounds (in total) dam³/year							
	Lubelskie Voivodship	159703	126705	127496	120902	142320	143967	162271
	Podkarpackie Voivodship		174300	193600	190800	180900		
	Volyn Oblast	56800	54700	51600	53900	55700	55200	54600
	Lviv Oblast	321900	306400	298200	282600	280000	290300	271100
	Zakarpatska Oblast					21.576	25.385	24.063
8.	Industrial sewage channelled to surface waters or grounds (in total) dam³/year							
	Lubelskie Voivodship	100088	71286	74461	70245	91637	93388	110753
	Podkarpackie Voivodship		122100	144000	141900	131800		
	Volyn Oblast							
	Lviv Oblast					30900	30000	
	Zakarpatska Oblast							
9.	Municipal sewage channelled to waters or grounds (in total) dam³/year							
	Lubelskie Voivodship	59615	55419	53035	50657	50683	50579	51518
	Podkarpackie Voivodship	50000	52000	49700	48800	49100		
	Volyn Oblast							
	Lviv Oblast					229000	225000	
	Zakarpatska Oblast							
10.	Industrial purification plants (ones removing biogenes in brackets)							

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	Lubelskie Voivodship	112				87	83	
	Podkarpackie Voivodship	65		60	56	63 (6)	60	57
	Volyn Oblast							
	Lviv Oblast							
	Zakarpatska Oblast							
11.	Municipal purification plants (ones removing biogenes in brackets)							
	Lubelskie Voivodship	187				222	223	
	Podkarpackie Voivodship					123 (25)		
	Volyn Oblast	93	-	-	94	91	90	88
	Lviv Oblast							
	Zakarpatska Oblast	39	39	39	39	39	39	39
12.	Population using purification plants in total %							
	Lubelskie Voivodship	47.8	48.8	49.6	49.9	50.5	51	51.9
	Podkarpackie Voivodship					49.6	52.1	54.3
	Volyn Oblast	40.3	-	-	41.3	42.6	43.9	44.8
	Lviv Oblast					39.8	40.4	42.1
	Zakarpatska Oblast							
13.	Population using purification plants (city) %							
	Lubelskie Voivodship	93.2	93.9	93.9	93.5	93.5	93.8	94.1
	Podkarpackie Voivodship	81.9		82.3	82.4	83.4	83.8	96.4
	Volyn Oblast							
	Lviv Oblast					82.1	87.4	88.7
	Zakarpatska Oblast							
14.	Population using purification plants (countryside) %							
	Lubelskie Voivodship	9.2	10.5	10.9	11.9	13	13.6	15.1
	Podkarpackie Voivodship					26.6	30.6	32.4
	Volyn Oblast							
	Lviv Oblast					9.4	11.4	12.6
	Zakarpatska Oblast							
15.	Consumption of water from waterworks m ³ /1 inhabitant							
	Lubelskie Voivodship			35.3	34.5	33.8	32.9	32.9
	Podkarpackie Voivodship				287.8	274.0		
	Volyn Oblast	41.6	-	-	33.0	32.3	31.5	30.5
	Lviv Oblast					41.7	40.8	38.5
	Zakarpatska Oblast							
	WASTES							
1.	Number of municipal rubbish dumps							
	Lubelskie Voivodship	60				125	123	134
	Podkarpackie Voivodship					49	47	46
	Volyn Oblast	23.0	23.0	23.0	23.0	23.0	24.0	24.0
	Lviv Oblast						574	572
	Zakarpatska Oblast	261			305			298
2.	Area of municipal rubbish dumps ha							

	Lubelskie Voivodship	125				240	220	295
	Podkarpackie Voivodship					123.7	111.5	107.7
	Volyn Oblast	69.0	69.0	69.0	69.0	69.0	79.2	79.2
	Lviv Oblast						465	461
	Zakarpatska Oblast	135.1			186.1			182.7
3.	Collected solid municipal wastes tones/year							
	Lubelskie Voivodship	564414	488153	426206	357100	306600	326200	350000
	Podkarpackie Voivodship	503726		440097	419559	378917	346290	358978
	Volyn Oblast	143000	114000	144000	146000	146000	156000	134000
	Lviv Oblast	445767				277122	240540	238916
	Zakarpatska Oblast	408455				27180		
4.	Collected municipal wastes kg/person							
	Lubelskie Voivodship	253		194	164	143	155	168
	Podkarpackie Voivodship	240		209	200	181	165	171
	Volyn Oblast	259	208	263	339	266	285	244
	Lviv Oblast	267				137	117	117
	Zakarpatska Oblast							
5.	Collected selectively municipal wastes t/year							
	Lubelskie Voivodship				1799	6028	11887	
	Podkarpackie Voivodship					8559.8	11507.2	16121.8
	Volyn Oblast							
	Lviv Oblast							
	Zakarpatska Oblast							
6.	Industrial wastes produced in total thousand tones							
	Lubelskie Voivodship	4243	3670	3844	4132	4072	5155	4884
	Podkarpackie Voivodship			1148.6	1290.5	1271.7	1246.9	
	Volyn Oblast	280.6	-	-	1125.2	763.8	1122.9	922.1
	Lviv Oblast	1083	2179			1073	777	3745
	Zakarpatska Oblast							
7.	Share of recycled industrial wastes in the total amount of wastes produced within a year %							
	Lubelskie Voivodship			94.9	93.2	92.3	94.3	85.9
	Podkarpackie Voivodship						93.5	
	Volyn Oblast	-	-	-	74.8	43.2	56.8	45.1
	Lviv Oblast					40.5	80.4	44.5
	Zakarpatska Oblast							
8.	Area of not recultivated industrial wastes disposal ha							
	Lubelskie Voivodship	178.9	177.6	168.8	143.5	137.2	132.3	113.6
	Podkarpackie Voivodship	317.6		270.2	274.5	74.8	76.6	74.1
	Volyn Oblast							
	Lviv Oblast							
	Zakarpatska Oblast							
	PROTECTED AREAS							
1.	Protected lands to total Oblast area %							
	Lubelskie Voivodship	22.7	22.7	22.7	22.8	22.8	22.8	22.7

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	Podkarpackie Voivodship	47.9	47.9	47.8	47.4	47.5	47.7	44.5
	Volyn Oblast	1.6	2.6	2.6	2.6	2.6	2.6	2.6
	Lviv Oblast	5.2	5.2	5.2	5.2	5.2	5.2	5.2
	Zakarpatska Oblast	12.2	12.2				12.8	12.8
2.	Protected areas ha							
	Lubelskie Voivodship	570019.9	570035.1	569883.4	572104.5	572275.8	572112.7	570421.6
	Podkarpackie Voivodship	858236.7		856795.3	846683.8	848326.4	851455.9	794216.1
	Volyn Oblast	32800	51952.7	51952.7	51952.7	51952.7	51952.7	51952.7
	Lviv Oblast	113234.2	113234.2	113234.2	113317.9	113319.9	113319.9	113407.9
	Zakarpatska Oblast	152123	152123				159504	159604

GB

Land usage in 2006.

Voivodship/ Oblast	Total surface area	Including					woods and woodlands	Devastated lands (degraded) and demanding re-cultivation
		farmlands						
		overall	arable lands	orchards	grazing lands and meadows			
thousands ha							ha	
Poland	31268.5	15906.0	12222.0	296.5	3387.5	9172.6		
Ukraine								
Lubelskie Voivodship	2512.2	1497.4	1177.1	55.5	264.8	567.7	3392	
Podkarpackie Voivodship	1790.0	980.4	640.2	12.7	275.6	650.8	2573	
Volyn Oblast	2014.4	1086.0	674.5*	11.3*	213.8*	693.0	5572	
Lviv Oblast	2183.1	1268.5	797.2	22.9	447.7	693.8	9.5	
Zakarpatska Oblast	1275.3	453.5	200.5	27.1	225.9	735.2	0.1361	
Total	9775	5285.8	3489.5	129.5	1427.8	3340.5	11546.6361	

* -data from 2001.

INDEXES – TOURISM (REPORT FOR ANALYSES, SUPPLEMENT AND VERIFICATION)

No.		Unit of measure	Zakarpa-tska Oblast	Podkarpackie Voivodship	Lviv Oblast	Volyn Oblast	Lubelskie voivodship
I. Tourism accommodation places							
1.	Hotels and motels	Number of places		58		27	48
		Accommodation places in total/ all year round places		3695		1948	4.75 thousand
2.	Pensions	Number of places		14		1	2
		Accommodation places in total/ all year round places		685		44	120
3.	Youth hostels, excursion houses	Number of places		13		71	37
		Accommodation places in total/ all year round places		763		2076	1860
4.	Holiday lodges and recreational- training centres	Number of places		43		560	93
		Accommodation places in total/ all year round places		4488		3511	3919 1871
5.	Spas	Number of facilities		8		62,729 /4,073	6
		accommodation places		1354		8,065	950
6.	Number of tourists in total/ number of international tourists	thousands		564/ 64.1	278.2/ 57.9	201/29	3.3m /1.7m
7.	Accommodation places in total/ year-round places	thousands		201.7/ 15.1		-	19.8 thousand/ 10.5 thousand
8.	Number of tourists using the accommodation/ international tourists	thousands		564387 64106		-	565 thousand/ 95 thousand
9.	Number of tourists accommodated, including the international tourists			1629396 133145		-	1290 thousand/ 155 thousand
10.	Number of agritourism farms, including ecological ones			570		-	215 (20)
	Number of accommodations in ecological and agritourism farms			7581		-	1563
11.	Percentage of tourists in agritourism farms in the total number of tourists	%		-		-	8-10
II. Tourist infrastructure							
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie

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12.	Tourist trails (hiking, horse-riding and cycling, or water- or railway trails) in total	Number		228		9	
		Track length in km		9619,9		-	
	Hiking trails	Number		90		-	78
		Km		2773,5		-	3185km
	Cycling trails	Number		29		-	>30
		Km		2670,8		-	840 km
	Water trails	Number		3		-	-?
		Km		710		-	-
Horse-riding trails	Number		15		-	>3	
	km		382		-	>50km	
13.	Narrow-gauge railway	Km		71		0	25
14.	Horse-riding centres	Number				1	45
15.	Beaches	Number		50		20	around 70
16.	Swimming pools, including the year-round	Number		62		7	32 (22)
17.	Underwater tourism centres	Number of centres				1	1?
18.	Sailing tourism	Number of centres				0	?
19.	Ski lifts	Total number		28		0	12
		Total length in km		30		0	>2,5
20.	Sport airports	Number		4		0	4
III. Food infrastructure							
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
21.	Food facilities in places of collective accommodation (restaurants, bars and cafes, canteens)	Number		296		1101 (facilities 21 and 22)	247
22.	Additional catering infrastructure (cafes, tea rooms, beer cellars, coffee bars, confectioner's, cafeterias, snack bars, aperitif bars, cocktail bars)	Number					>30
23.	gastronomic spots (fish and chips shops, pizzerias, pubs, ice-cream parlours, pavement cafes, Mc Donald's and KFC)	Number		76			?
24.	Places with regional cuisine	Number					
IV. "Tourist-oriented" facilities							
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
25.	Banks and cash machines	Number		400/166		379	
26.	Medical rescue system	Number of facilities		?		156	
V. Spas' infrastructure							
27.	Spas	Number		4			2
		Number of facilities		?			950
VI. Conference and business tourism							
28.	Conference halls	Number		?		9	>15
29.	Exhibition events	Number		?		3	
VII. Towns, areas and regions of tourism interest							
30.	Tourist cities and towns	Number		?			18
31.	Areas (e. g. borderlands)			?			5
32.	Regions			?			6
VIII. Road access							

No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
33.	National trunk roads of international importance in total	Km		771.6		158	1000
	- Highways	Km		0		-	
	- Expressways	Km		0		-	
	- Voivodship roads of interregional importance	Km		1665.7		593.4	2200
34.	Density of paved public roads	km/100km ²		79.4		313.6	9
35.	Percentage of dual carriageways in the total length of roads	%		0		-	100km
36.	Travellers' service centres	Number				510	?
IX. Rail access							
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
37.	Density of railways in use	km/100km ²		5.5		283.6	5.8
38.	Railways adjusted to the speed of 160 km/h	Number / length in km		?		-	NO
X. Accessibility through inland waters							
39.	Length of channels and navigable rivers	Km		?		0	
40.	Ports and harbours	Number		?		0	1
41.	Ferries	Number		?		0	2?
XI. Air accessibility							
42.	Airports	Number		1		0	-
43.	Other airports that can be adjusted to serving passengers			4		0	-
44.	Passenger traffic at the airports in total per annum	Thousands		208102		0	-
XII. Borderline infrastructure							
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
45.	Border crossings	Number		16		9	5
	- road	Number		5		6	
	- railway	Number		4		3	
	- air	Number		2		0	-
	- tourist	Number		5		0	
46.	Distances between border crossings	Km on average				-	50km
47.	Traffic at the border crossings	Thousands of people		14 077.3		6233.7	12m
XIII. Cultural infrastructure, tourist service facilities							
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
48.	TV centres			1		3	1
49.	Operas, conservatoires, philharmonic orchestras	Number		1		1	1
	- number of seats in music institutions	Thousands		983			535
50.	Orchestras	Number				1	20
51.	Museums	Number		35		10	39
52.	Theatres	Number		3		2	4
	- number of seats in theatres	Thousands		667		-	584
53.	Cinemas	Number		37		21	30
	- number of seats in cinemas	Thousands		11392		-	8.5 thousand

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54.	Art galleries	Number		4		-	9
	- number of people visiting	Thousands		67883		-	64 thousand
	- number of exhibitions, expositions			170		-	130
55.	Culture centres, clubs and day rooms	Number for 1000 inhabitants				680	190
56.	Number of attendants of cultural events	Thousands					2040 thousand
57.	Sport clubs	Number		1203		243	203
58.	Botanic gardens	Number		1		1	1
59.	Zoos	Number		0		1	1
60.	Shops	Number		20742		1368	23 thousand
61.	Fuel stations and car service stations	Number		508		117	710
	XIV. Cultural heritage						
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
62.	Historic spatial arrangement (layout, urban or rural complex)						
	- registered in the list of National Heritage Sites	Number		2		0	1
	- recognised as monument of history	Number		2		860	2
	- registered in a list of historic monuments	Number		3843		35	3705
63.	Archaeological sites (old ramparts, mounds and others)					149	84
64.	Monuments of architecture and construction of significant value						
	- defensive (castle, ruins of castle, fortress, fortification lines)	Number		21		2	8?
	- residential complex (palace, court)	Number		16		-	
	-public houses	Number		?		1	
	- places of martyrdom and historic events	Number		?		-	>5
65.	Multiculturalism of the region						
	- Orthodox church and other faiths range	%?		?			
	- churches	Number		?		5	
	- monastery complexes	Number		?		12	
	- Orthodox churches, synagogues	Number		?		114	54
	- pilgrimage centres	Number		6		4	
	- graveyards (historical)	Number		?		-	
	XV. Cultural heritage routes						
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
66.	Historical (trade, railway, water)	Number /km				-	9
67.	Interpenetrating cultures Route	Number /km				-	4
68.	Jewish culture Route	Number /km				-	2
69.	Orthodox culture Route	Number /km				-	?
70.	Museums Route	Number /km				-	1/72
71.	Sacred architecture Route	Number /km				-	-
72.	Aristocratic residences Route	Number /km				-	2
73.	Bug River Valley Route	Number /km				-	1/329
						-	



XVI. Folk art centres							
No.		Unit of measure	Zakarpatska	Podkarpackie	Lviv	Volyn	Lubelskie
74.	Weaving	Number		?		8	1
75.	Pottery	Number		?		3	6
76.	Smithery	Number		?		-	1
77.	Weaving	Number		?		6	?
78.	Painting	Number		?		4	
79.	Decorative and ritual art	Number		?		9	
80.	Sculpture	Number		?		7	1

Podkarpackie – cultural routes

XV. Cultural heritage routes								
66.	Good Soldier Švejk Route	Number /km						350
67.	Icon Route	Number /km						650
68.	San River Fortifications Route	Number /km						390
69.	Wooden Architecture Route	Number /km						1202
70.	Pottery Route	Number /km						30
71.	Lubomirski Family Estate Route	Number /km						488
72.	Aleksander Fredro Route	Number /km						450
73.	Petroleum Route	Number /km						
74.	Papal Route							