# LANDSCAPE PLANNING FOR UKRAINIAN RURAL COMMUNITIES: CHALLENGES, OUTPUTS, PROSPECTS

# KRAJOBRAZNO PLANIRANJE U UKRAJINSKIM RURALNIM ZAJEDNICAMA: IZAZOVI, RJEŠENJA, PLANOVI

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UDK 911.373:332.142.4/.145>(477)=111
Primljeno / *Received*: 2014-11-08
Pregledni članak
*Review*

A significant number of economic, social and environmental problems have accumulated in all areas of Ukraine and pose a serious obstacle to sustainable development. Those problems are particularly acute in the rural areas. The local rural communities in Ukraine have the lowest indicators of economic development, significant social problems, including particularly acute demographic and employment problems, and an unfavorable ecological situation caused by poor municipal infrastructure, land degradation, etc. The vast majority of the rural communities in Ukraine have no plans for their own territories' development. In such circumstances, the introduction of landscape planning tools is an effective means of identifying the existing development problems and environmental management issues, as well as of defining the best ways for the integrated development of the local rural communities. A number of reasons prevents introduction of such planning in Ukraine, including the flaws in the legislation, lack of interest among managers of rural communities and low activity of local people on the issues which determine the future of their settlements.

However, there are examples of successful implementation of landscape planning tools in designing of the plans of rural communities' development. The authors were a part of the team which, for the first time in Ukraine, undertook this research in the Stepanetsky rural council in Cherkassy region. The results of the research have been welcomed by the management, the residence and the members of the village council and they are being practically implemented.

The foregoing demonstrates the relevance and feasibility of landscape planning tools implementation in Ukraine directed at addressing and resolving the problems of the rural communities.

**Keywords:** rural community; landscape planning; nature use conflicts; objectives; Ukraine; region

## Introduction

Ukraine has a long history of territorial development plans which take into account various degrees of environmental aspects. Meanwhile, throughout the Soviet period, the aspects of economic development remained a priority which, generally, negatively affected the condition of natural elements.

Landscape Planning (LP) is an important instrument of European spatial planning[1], which greatly ensures the implementation of sustainable development into appropriate policies. The need for landscape policies implementation in successful regional development is highlighted in the Guidelines for Sustainable Spatial Development of the European Continent (hereinafter - Guidelines) formulated as "integration of landscape development into spatial planning and sectored programs" and "implementation of integrated policies directed at simultaneous landscape protection, management and planning" (URL 1, 2000).

In its different forms and with an emphasis on achieving environmental objectives, LP tool is included in the system of spatial planning in most

[1] In the article, the terms *spatial planning* and *territorial planning* are used as having the same meaning.

European countries, evolving along with it, as "a key planning tool aimed at nature conservation and landscape management" (*Landscape planning for sustainable municipal development*, 2002). In this manner, the relations between society and nature within specific areas are optimized, forming a national and later on a transnational multi-level system. In the European Landscape Convention the term is defined as "long-term planning, with the aim at improvement, restoration and formation of landscapes" (*Landscape planning and nature protection*: *German-Russian-English Glossary*, 2006).

It should be noted that as an independent and legitimate tool with binding recommendations developed in the course of its use, landscape (or environmentally-oriented) planning has not acquired global usage. However, in highly developed countries its objectives are achieved within the scope of several other instruments, primarily environmental policies and programs (see for instance URL 2). With respect to the European countries one can expect (and often argue) consolidation and improvements in landscape policy, as well as the promotion of environmentally-oriented planning, due to a formal ratification of the European Landscape Convention (2001) by many of them, including Ukraine (2005). The informal explanation is aggravation of the global environmental situation, climate change, increasing number of catastrophic natural events and the extent of their effects.

The essence of landscape planning reaches far beyond the obvious environmental functions. It is a complex process of ecological and economic evaluation of the functions of different areas and the subsequent coordination among all user groups' priorities and risks of their implementation. In this manner the management structure acquires a basis for land use regulation and investment activities and gains comprehensive information about the state of the environment. This facilitates communication processes, raises competitiveness, allows reconciling economic interests with environmental objectives, and preservation of cultural and historical heritage.

Thus, although based on an overall description of socio-economic, environmental and institutional issues in Ukraine, landscape planning is a promising tool for sustainable development and environmental protection (URL 3).

Prolonged exposure to anthropogenic factors led to environmental problems in almost all regions of Ukraine, through both agriculture and industry. Consequently, the reverse impact of the damaged environment on man and his health has been increased. Thus, there are many obstacles on the way of country's further progress toward a sustainable (balanced) development model (Lisovsky, 2009; Lisovsky et al., 2012). Its development will require an introduction of new principles and approaches to the organization of environmental management in the country and its individual regions, including the restructuring of the national economy which must be based on optimizing the use of the country's natural resources, socio-economic, cultural and historical potential, as well as optimizing the directions and the scale of nature management. When selecting priority areas of nature in some regions preference should be given to those which are characterized by an optimal balance reflected in both the achieved economic and social benefits and the lowest possible level of damage caused to environment. Justification for this choice requires improving long-term plans for economic, social and environmental development of the country and its regions through the active implementation of spatial planning tool LP into practice (Rudenko, Maruniak, 2012).

As with all transitional economies, Ukraine will remain within the zone of risk, uncertainty and limited financial resources for a long time, which will inevitably manifest in difficulties in the implementation of environmental standards due to conflicts of nature and, especially, land use (Rudenko et al., 2005, 2012). Most of these conflicts are already apparent. The unsatisfactory state of affairs concerning the collection, systematization, evaluation and monitoring of information about the environment and its changes are also an issue. Besides the flaws, specifically in network monitoring where density and technical support are far lower than in the developed countries (Zerkalov, 2013), the questions of accessibility and integrated use of data remain unresolved. The problems include the lack of electronic media, an inconsistency in temporal and spatial parameters of different surveys, their interagency "dispersion", as well as a discrepancy in the levels of detail.

The implementation of landscape planning, at least at the regional level, would to some degree allow overcoming of these drawbacks, through revealing the obvious deficits, as well as substantially improving the system of environmental monitoring and spatial planning.

With regard to democratization of planning and management procedures at the regional level, it would primarily manifest in interaction between and integration of various non-governmental organizations, scientists, educators and management structures. This, in turn, would probably facilitate the communication process, contribute to the spread of education for sustainable development, and give grounds for informed decisions when carrying out environmental impact assessment. It would also facilitate the implementation of national programs such as the development of Ukrainian ecological network, the establishment and management of national parks and biosphere reserves, the placement of alternative and renewable energy objects, as well as green tourism infrastructure and organic farming development.

The complete LP implementation at regional and local levels in Ukraine still appears to be something yet to be reached. Nevertheless, such models are really essential – they allow an active engagement of the community and individual land users in the planning process, raising environmental awareness, and finding of the compromise between desirable and sustainable use of the territory.

**Landscape planning in Ukraine: methodological and institutional framework**

The year 2010 may be considered the starting point of landscape planning in Ukraine. Namely, it was in 2010 that the Institute of Geography of Ukraine NAS has started the project "Landscape Planning in Ukraine" with an advisory support of German Federal Office for Nature Conservation (Rudenko, 2013). The most significant features of the project are:

1. Integration of national and European methodology regarding landscape assessment and management.
2. Development of legislative foundation, identifying opportunities to perform planning work within Ukraine legislature, as well as steps necessary for LP tool implementation in the state.
3. Practical component - to develop landscape plans and programs for three levels of the model region, Cherkasy region.

The three mentioned points should be considered more precisely. It is quite clear that the approaches to the implementation of LP significantly differ in EU countries, even the neighboring ones, which can be explained by the specificities of national legislations, features of territories, economic developments as well as population mentalities. Being among the most developed and utilized in EU, the German concept became the basis of LP implementation in Ukraine. Meanwhile, in Ukrainian realities there have always been specific views at the concept of landscape, approaches to its classification, valuation and mapping. The concept of cultural landscape was introduced to a certain degree. Thus, one of the main project's objectives was to overcome the existing methodological differences, which was mostly achieved.

According to the traditional European (mostly German) methodological approaches (Haaren, 2004; Heiland, 2010), planning is performed through the following stages: assessment of the framework conditions and planning purposes, inventory, assessment of information by the nature components and types of human activity, analysis of conflicts between landscape features and their current and potential use and development of goals and measures for further use of the territory. Verification of the proposed recommendation (the degree of incorporation and effectiveness) should be carried out in the final stage - the stage of monitoring.

The overall goal of any modern territorial (and especially landscape) plan is to develop a concept for sustainable use of all resources in a territory that are "tied" to the local conditions, ensuring the preservation and improvement of the territory's quality and the population's living conditions (Heiland, May, 2009). Thus, the main ideas are an expert evaluation of the natural and the social advantages of a territory, and the development of a set of specific recommendations for each of its specific functions and objects. In practical terms, a detailed objective corresponds to grounded assessment of investment attractiveness, opportunities and needs for the development of tourism industry, harmonization of the population interests, economic and environmental performance, and strategy for socio-economic development.

Data inventory of natural components (climate, ground and surface waters, soils, species of flora and fauna, landscape as an integrated natural system), as well as of a type and directions of the human activities' impact (formation of the cultural landscape, features of anthropogenic

transformation of ecosystems, objects and areas of influence, social and demographic economic changes, the structure of land use) is a basic step in the procedure of all future decisions-making, from expert to administrative sphere. In the Ukrainian context its importance increases because this is the way (through the collection of a huge array of information and its transfer into electronic format and systematization of a number of separate indicators) to partially overcome the shortcomings of the national monitoring system for a specific area. The database formed as a result makes it possible to solve a wide range of tasks well beyond ecologically oriented planning.

The assessment stage, which is certainly carried out in close relation with the inventory stage, implies analysis and synthesis of the data based on a variety of techniques both in planning and research. The main objective of this stage is to demonstrate to the user the fundamental differences between territorial patches within an area by a number of characteristics. In addition to quantitative indicators, the qualitative parameters – visual perception, local people's ideas, image at regional and national levels and the potential of the progress forming factors (use of knowledge, local identity, environmentally friendly technologies) - have also been successfully used during assessments. The combination of importance and sensitivity (vulnerability to impacts) provides grounds for conclusions about desirable and undesirable future use of different patches. Maps obtained at this stage can be successfully used for specific purposes – development of ecological network schemes, changing the boundaries of protected areas, crop planting and so on.

One of the most informative maps is an integrated map of nature management conflicts, and, actually, is a result of its development phase. This is the spatial slice of various nature user groups' interests that allows to set boundaries and areas with the most significant present and future interest clashes and environmental degradation and to find well-backed arguments for the situation improvement. This information is important not only for the separation of activities according to the principle of minimizing environmental impact and maximizing the profits of the territory, but also for reduction of the risk of emergencies, preparation of plans for investment attraction, and requirements to investors.

The integrated concept of objectives and measures in finalizing the development plan is the manual for and the concept of territory use, developed with taking into account the principles of sustainable development (Rio 92, Rio + 20). The concept distinguishes the areas which need special attention and significant improvement in environmental quality and infrastructure associated with its use, the areas which need some minor investments and those which can be used without changing the designation and/or in need of protection. The measures specify the directions of possible actions. This document is the basis for a number of regulatory acts and strategic planning of socio-economic development, achievement of sectoral objectives.

Landscape plan, developed within the framework of a project for rural community, is one of the lower-level plans and can be produced with the scale larger than 1: 25,000 (in some cases – smaller). Within the context, landscape plans are "a set of cards and texts similar to the framework plan by their composition, but designed for a smooth solution of nature protection problems and land-use by some specific business entities and management bodies at the low administrative-territorial levels" (*Landscape planning and nature protection: German-Russian-English Glossary*, 2006).

In European countries with developed LP practices, and particularly in Germany, whose experience is the advisory basis for this research, the availability of such plans is near 100%. In the vast majority of territories, planning recommendations of that level are also required. In Ukraine this level of planning documentation corresponds to the town general plan, and, in some cases, graphic zoning materials.

Landscape plan, compared to the previous levels, creates both opportunities and additional obligations for the developer. As for opportunities, it is definitely feeling of the object of planning, ability to clarify and visualize the data, access to the area and full scale cooperation with the local community. Field research becomes an important element, which is virtually mandatory in Ukrainian realities. However, such details require the usage of representative data (and its availability is known to be rapidly declining from the highest to the lowest level) and the maximum specification of programs, objectives and measures proposed as a result of development.

The experience of landscape planning in Ukraine suggests the strategic importance of this level because this is where the culture of

attitude to the place of residence, the so-called environmental consciousness is laid. Obviously, in this relation, it refers to the growing importance of public discussion regarding local issues, an attitude toward the territory use purposes, and an understanding of the objectives and content of sustainable development in general. In case of the obvious conflicts in land use, to detect a true cause of a problem becomes the priority for a developer. For example, a possible situation of "inefficient solution to the problem on the part of local/regional authority" may arise from a range of causes among which are the following: "there is the desire, but wrong way is chosen", "the community is not aware of the harm done by their actions", "effect of the opaque financial/ administrative factors", "community endorsed the decision and ready to decline it under the new circumstances", etc.

Regarding the legislative framework, it is worth to note that today in Ukraine there is no specific law to regulate landscape planning. Therefore, at present, its implementation is based on two main components: environmental legislation and laws in the area of spatial planning. Among specific legislative acts which set the basis for LP tool implementation there are the Ukraine Cabinet of Ministers Directive of 17 October 2007 yr. No. 880-p "On approval of the Ukraine National Environmental Policy Concept till the year 2020", the Law of Ukraine "On basic principles (strategy) of Ukraine state environmental policy to 2020 yr." (2010 yr.), and designed for its execution the "National action plan for environmental protection in 2011-2015 yrs." (Directive of the Ukraine Cabinet of Ministers 25 May 2011 yr. № 577- p). These documents by their context are close to European standards on integrated ecological management and their practical implementation obviously cannot be based on anything but experience and methodological principles of research and development adopted in the EU.

In the course of the project, with the aim of legitimizing LP, the proposals to the law draft "on landscapes" were developed and directions of LP legislative implementation were founded: to facilitate the procedures for strategic environmental assessment implementation; the improvement of the regional environmental policy; the improvement of managing protected areas and ecological network development; "green" territorial planning; meeting obligations on ratified international conventions, with the European Landscape Convention in the first place.

As for the practical component, three main documents have been developed (see in Rudenko et al., 2014): Cherkassy region landscape program (scale 1: 200,000), administrative region framework landscape plan (1: 50,000) and the village council landscape plan (1: 10,000), details of which will be discussed later in the article.

**Problems of rural areas development**

What is today's Ukrainian countryside? This question may produce many answers. According to Ukrainian legislation rural areas are defined as territories outside the cities which are predominantly used for agriculture and rural housing (The Law of Ukraine "On Agricultural Advisory Activity", 2004). More than 90% of the country's territory is "rural", with more than 1/3 of the Ukrainian population (Borschevsky et al., 2011). In the economic dimension there is a complex combination of farm enterprises and large agro holdings with depressive, unprofitable farms. The social dimension, unfortunately, is marked by a significant outflow of population through internal and external migrations, natural decline and poverty. The environmental aspect is largely reflected in the irrational structure of nature management, pollution and soil exhaustion. The cultural component includes identity loss challenges and the issues of preserving the unique ethnic and historical values.

Ukraine is going through difficult times. So far the effects of deep social and economic crisis generated in the early 1990s have not been overcome. In 2013 the volume of GDP was only about 70% of its pre-crisis 1990 indicator (*Gross domestic product (GDP) of Ukraine*, 1990-2012). It is worth noticing that all problems of social and economic policy in Ukraine are especially acute and have extreme indicators in rural areas. As a result of the compound impact of many factors (natural and mechanical move, the consequences of famine, wars), the rural population in Ukraine has decreased in absolute and in relative terms in the last hundred years, from 81.5% in 1926 to only 31.0% in 2014 (Tab. 1).

Table 1 Ukraine, the dynamics of the rural population

| Years | Rural population in thousands | Share of rural population in % |
|---|---|---|
| 1926[2] | 23644,6 | 81.5 |
| 1939[3] | 19755,8 | 63.8 |
| 1959 | 22721,6 | 54.3 |
| 1970 | 21437,9 | 45.7 |
| 1979 | 19440,4 | 39.2 |
| 1989 | 17154,8 | 33.3 |
| 2001 | 15883,0 | 32.8 |
| 2014 | 14089,6 | 31.0 |

Source: Demoscope Weekly, 2014

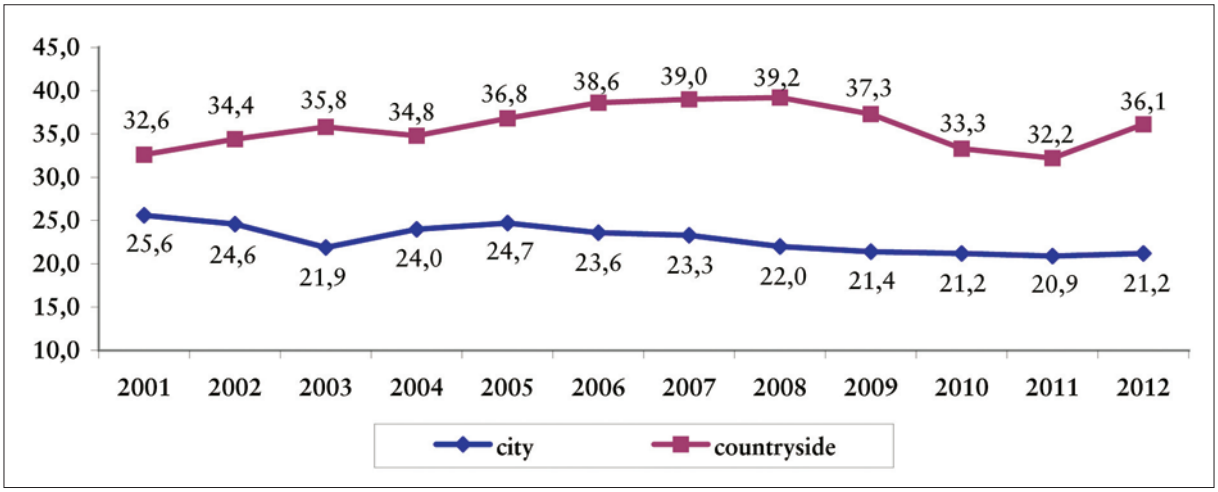


Figure 1 Ukraine - the poverty rate by type of settlement in % (2001 - 2012)[4] (*Social Report*, 2012)

Among the main adversities we should first mention the problem of poverty, one of the systemic obstacles in the way of country's transition to the model of sustainable (balanced) development. Poverty and sustainable development are incompatible, particularly because the population which lives below the poverty line, pays less attention to the environmental aspects of the development and the needs to preserve nature. On the contrary, it is ready to participate in the construction of environmentally hazardous facilities, violate environmental legislation and so on (Lisovsky, 2009).

[2] within the borders of 1926 y.
[3] within the borders of 1939 y.
[4] According to the relative criterion for 9 months in 2012, the poverty line in Ukraine was UAH1108 (or approximately €100) per month per person (*Social Report*, 2012).

Poverty in Ukraine gained official recognition after the approval of the Poverty Reduction Strategy by the Decree of the President of Ukraine on August 15, 2001 № 637/2001, which defined the term "poverty", the only relative criterion to place different population segments at the level classified as poverty line, as well as the main directions and steps to combat poverty. At present the issue of poverty alleviation in Ukraine is a priority task for the country and society. In general, the level of poverty in Ukraine for 9 months of 2012 was 26% - specifically, in rural areas it was 36.1% and in urban areas 21.2% (Fig. 1).

According to the same source, the average monthly expenditure of rural households was lower than the similar expenditure in urban households. Urban household spent on average UAH 3719 per month, and rural UAH 3207. On

average per one member of the households the equivalent total expenses (further – total expenses) were UAH 1688 per month; in urban households – UAH 1796 in rural – UAH 1464 (Social Report, 2012). Rural households spent a larger share of income on food in comparison to the urban ones (respectively 55% vs. 51%). This is one more important indicator which focuses on the acute problem of impoverishment of Ukrainian rural regions. The problem of poverty in rural areas primarily stems from the complicated situation on the labor market, shortage of jobs and low wages (URL 6).

As a result, problems associated with negative trends in natural and mechanical population moves is much sharper in rural Ukraine than in urban, leading to depopulation of the rural areas. The rural Ukraine has significantly less health care institutions in comparison to the cities, and therefore has much less possibilities to provide medical services and utility facilities infrastructure in general. For example, only 6283 villages (22.1% of the total) are provided with centralized water supply system and 737 villages (or 2.6% of the total) with sewage (*Social Report*, 2012).

Another problem of rural development in Ukraine is about the nature of natural resources management in general, and Ukraine major natural wealth – land fund – in particular. The territory of Ukraine is characterized by extremely high rate of agricultural development that far exceeds ecologically reasonable limits. Even with the decline in recent years, this rate is significantly higher than in European countries, whose arable land is 30-32% of the total surface area, while the index of arable land in Ukraine reaches 53.8%. Excessive land tillage, including slopes, had a negative impact on the sustainability of agricultural landscapes and causes significant technogenic impacts on the ecosphere. The farmland in Ukraine experiencing the damaging effects of water erosion is around 13.4 million hectares, including 10.6 million hectares of arable land, wind erosion – 6 million hectares, and in the years with catastrophic dust storms – 20 million ha. The annual increase in eroded land is 80 – 90 thousand ha (URL 6). At the same time Ukraine is not using its powerful agricultural production potential as nearly as it could. As of January 1, 2012 the land fund in Ukraine was 60,354.9 thousand ha and, according to Ukraine state land agency, significant part of the land area (70.9% or 42.78 million hectares) was farm land, of which agricultural land was 68.9%, with 53.8% arable land (*National report*, 2011). At the same time, the efficiency of agricultural production remained very low compared to European countries (Fig. 2).

The low efficiency of agricultural production potential is largely caused by the aftermath of communist experiments, and the communist regime crimes. As a result of the famine (more than 5 million victims, the majority in rural areas), destruction of millions of peasants in Ukraine, relocation of millions of them to Siberia, Kazakhstan, imposition of collective farms with their specific business practices, the historical farming tradition and the historical experience of nature management in the country have been

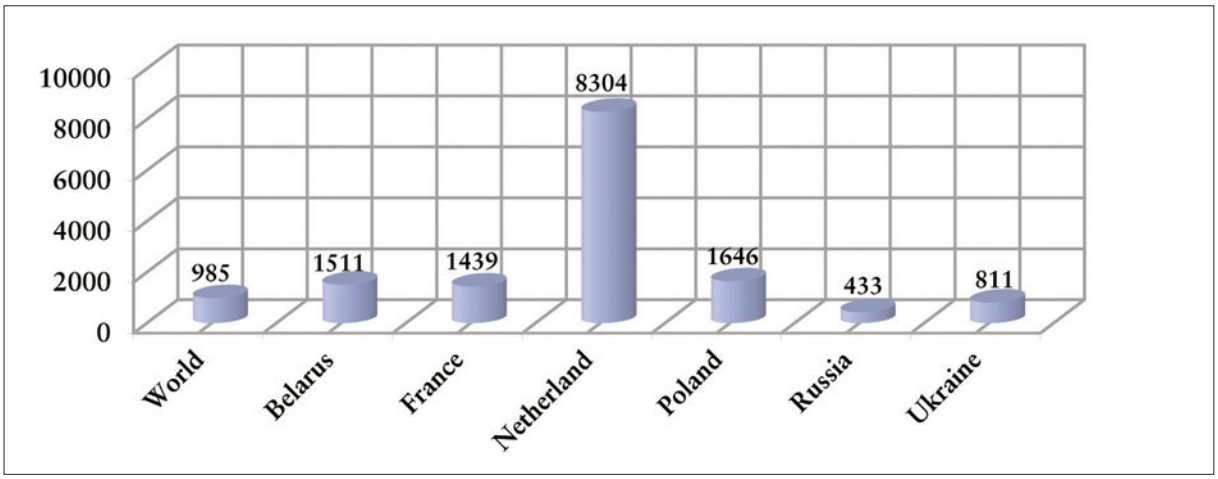


Figure 2 The world and selected countries. The productivity of agricultural land (dollars per hectare), 2012
Source: URL 5

largely lost. Today in many countries expats from Ukraine and their descendants demonstrate significantly better farming practices than Ukrainians in their own homeland. Destroyed identity, historical memory of people is one of the causes of environmental problems in the country.

In realities of the today's Ukraine, with integration into the globalized world economy, new factors are being added to the problems of rural areas. The features of the global market, particularly the demand for rapeseed and other industrial crops, include changes in crop structure and soil depletion, with short-term economic effect and high profitability indexes. Increasing the concentration of agricultural land in the hands of large agro holdings poses a significant disadvantage. Their number in Ukraine is constantly increasing. In the year 2012, a total of 10 largest holdings controlled approximately 2.8 hectares of land, specializing in growing and exporting grain and sunflower (Plank, 2013). The current dominance of domestic agro holdings may be lost in the future due to activity expansion of foreign capital representatives. Possible economic, environmental, and social risks resulting from the activity of those enterprises and their consequences require separate analysis. Scientists have repeatedly warned about the dangers of "gigantism" in agriculture, of the limited scale effect here, of high risks of monoculture and low diversification level in agricultural business, significant fluctuations in food prices, etc. Nevertheless, despite the warnings, the agricultural tycoons continue their pressure on society, offsetting losses at the budget account, and demanding benefits. They continue the land consolidation - while in 2013 big holdings tilled approximately 12% of arable land, in 2014 the share was above 20%. Big business continues to control more than 30% of Ukraine's crop and strives to increase the exports of agricultural raw materials (Borodina, 2014). Concentration of agricultural production in extra-large sizes limits the possibilities of agriculture and its potentially positive impact on Ukraine's economic development. Under the reign of agro gigantism, the agriculture's potentials for development remain unrealized.

Search for an adequate reaction to internal and external challenges are significantly complicated because there are no territorial planning documents, reasonable and spatially integrated strategies for socio-economic development, and no power centralization. Currently, only 14% of rural settlements have renewed their territorial plans (URL 4).

**Development of landscape plan for rural communities**

Certain work for the territory of Stepanetsky village council was performed at all stages prescribed by the LP methodology and taking into account country-wide Cherkasy region and Kaniv district framework conditions (Fig. 3).

Among the key topics of planning at this level are preservation of biodiversity and natural ecosystems, greening of agricultural activity (in particular, in the context of the concept "man and the biosphere" regarding the biosphere reserve) and an increase in environmental awareness. The analysis of the framework conditions took into account the territorial characteristics of Stepanetsky village area, and Cherkasy region in general.

Cherkasy region is one of the most typical regions of Ukraine facing more problems at the national level, including the problems of rural areas. The population of Cherkassy region as of 1st April 2014, was 1257,7 thousand persons (2.8% of the total Ukrainian population, the 16th place), out of which 545,9 thousand people (43.4%)[5] in rural areas. The amount of gross regional product is equal to approximately 1.9% of its national index. In terms of output *per capita* the region occupies the 14th place among 27 regions of Ukraine, having thus an average level of development in the country, and low in comparison to worldwide average. Low indicators of socio-economic development are the cause of many potential conflicts in nature management in the region.

The demographic problem is also very serious. Since the beginning of the 1960s the birth rate began to decline and mortality to grow. The region crossed the "demographic cross" threshold – the mortality over the birth rate – in the late 1970s. In 2009, the level of mortality in the region was 17% (ppm) and the birth rate less than 10%. The reduction in population is seen in all districts and cities of the region, especially in rural areas. Villages become abandoned, their number decreases, and the large area of land is not tended. The landscapes in such territories degrade and require significant expenses for improvement of qualitative characteristics and attractiveness.

[5] This and further data and calculations are based on the information of State and Regional Statistics Service of Ukraine.

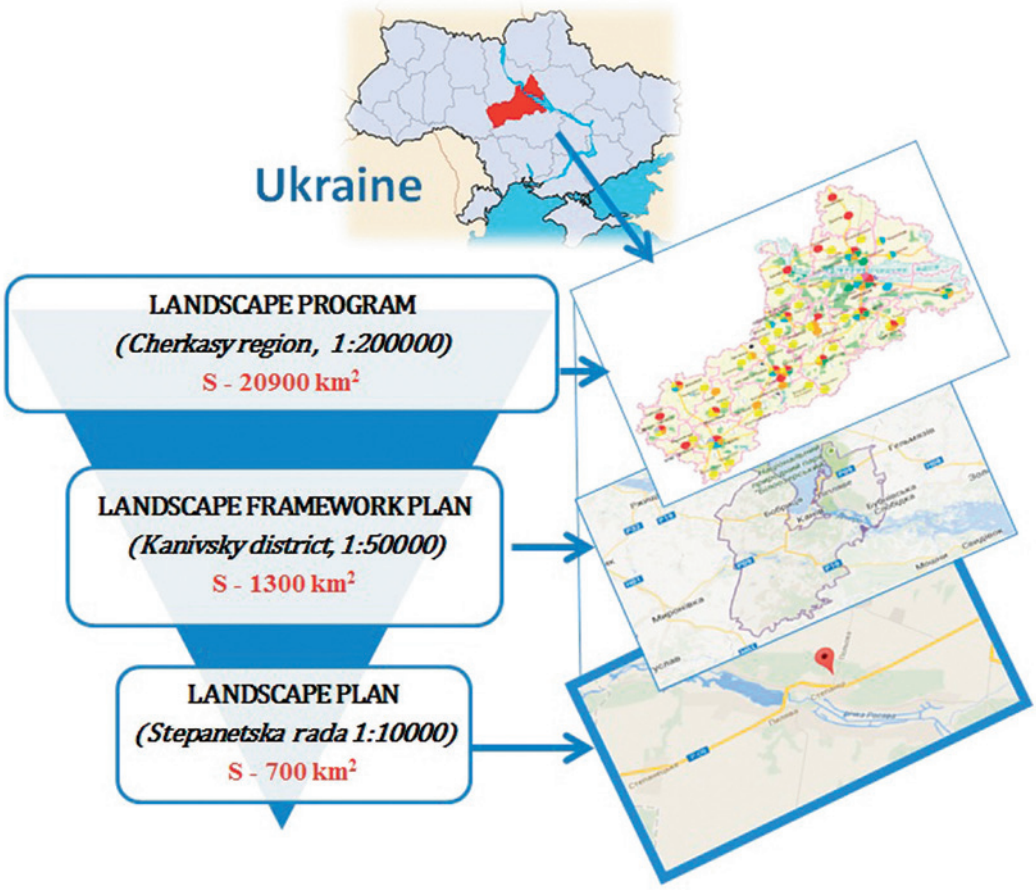


Figure 3 Levels of landscape planning in Ukraine (the case of Cherkasy region)

Regarding the essence of the natural resources usage, we should note that despite the extremely high natural soil fertility, the area's crop yield indicators are significantly lower in comparison to those in the Western European countries. Thus, the grain crop yield in the region, being one of the highest in Ukraine, is much lower than in those countries. The low yield is one of the main reasons which led to excessive tillage in the region. The negative consequences of active, predominantly extensive practices of agricultural land resources development led to excessive proportion of agricultural land (70% of the region area) in the general region's land fund structure, and within that structure – extremely high proportion of arable land, misbalance in proportions of arable land (87.6% of agricultural land), meadows (4.5%), pasture (5.4%), and insufficient area of the forests (16.2% of the field area).

Traditionally, since the early XX century, Cherkasy region has specialized on cultivation of grain crops. Their share in crop structure in the 1970s was 50-52.5% of the total crop area while the area under corn crops was just 3-7% of the total arable land. Productivity indicators of the crop growth in the region were among the highest in the country. The proportion of sugar beet crops in different areas of the region ranged from 7% to 15% of all crops. But now, due to specific conditions on the world markets, which determine the higher profitability of sunflower, rapeseed, soybean and corn, about 40% of crops in the region are under the soil depleting cultures. The area under the rapeseed crops has increased almost 100 times, soybeans 12 times, sunflower more than 3 times and corn 2 times.

Stepanetsky village council, chosen for the research purposes, is one of the largest in the area and has relatively better indicators of socio-economic development. The total area under the village council governance is 7124.5 hectares. As of 01.01.2012 the population of the area was

2589, distributed as follows: Stepantsi village – 2054, Piliava village – 107, Stepanetske village – 427. The villages, members of the Stepanetsk village council, have a rich history and have endured many dramatic events. At the beginning of the 20th century more than 7,000 people lived in Stepantsi, with developed artisan crafts, active sugar mills, soap factories and other production. During the Golodomor famine period about half of the villagers died. In the postwar years the traditional agriculture dominated within the community economy based on the usage of the region's fertile soils. Since the beginning of reforms in the structure of the agricultural production, there have been significant changes. In crop production, the share of traditional crops decreased (cereals – primarily wheat, among technical – sugar beets, potatoes, vegetables). Instead, the cultures such as sunflower, corn, soybean and rapeseed rapidly increased. In livestock the cattle head count of horses and pigs has experienced a dramatic decrease alongside the rapid increase in poultry as a result of many poultry plants built on the village council lands, such as PSC "Myronivska Poultry" (trademark "Nasha Riaba"). Today this is the producer who determines the character of nature management within the community's territory and is the cause of a significant number of conflicts.

Some significant demographic problems are typical for Stepanetsky village council, both as a district and a region. In particular, for some extended period, since the late 1980s, the death rate has been much higher than the birth rate. As a result, the population of all three villages of the council has declined from 2719 people in 2004 to 2341 in 2013. The low proportion of the working population along with high demographic burden on workers has increased the disparities in the gender structure of working people. A major problem is unemployment – especially for the young.

In general, irrational environmental management practices and excessive anthropogenic load made the task of ecosystem and cultural landscape preservation on the village council territory extremely urgent.

Further steps have been performed for the territory of the Stepanetsky village council - inventory, evaluation of all components of nature, analysis of natural resources usage conflicts, as well as creation of objectives and measures concept for the successful development of the area.

In particular, the following maps have been developed: "Sensitivity to negative climate changes", "Water retaining capacity of the territory", "Sensitivity of soil and groundwater to chemical pollution", "The value of soil for crop production", "Sensitivity of granites to water and wind erosion", "Value of species and habitat", "Natural landscapes", "Modern landscapes", "The landscapes attractiveness", "Recreational value" and so on.

At the stage of nature conflicts identification, as well as during the landscape program preparation, the conflicts have been reviewed by type and impact factors in terms of the time of occurrence, the scale (national, regional and local level), the length and frequency of displays (permanent, seasonal, episodic). Also, an integrated map of conflicts based on the two main categories – the existing and the potential conflicts - has been developed. One of the most important issues here is the one of environmental activity agenda of the largest enterprise and investor in the area – the poultry farm "Nasha Riaba". It is about the conflicts which have no clear territorial boundaries. This includes the conflicts caused by low levels of socio-economic development and environmental awareness of the local population, those caused by irrational structure of agricultural land use, as well as by the irrational crops structure and crop rotation system violation.

With this in mind, a list of major nature conflicts within the village council territory was presented as follows:

*I. Existing conflicts* between the environment components and nature management:

- Location of "Nasha Riaba" on the most fertile soils;
- Groundwater decrease because of the water consumption of "Nasha Riaba";
- Underground water pollution near the slaughterhouse of "Nasha Riaba";
- Water erosion, secondary salinization and loss of agricultural land's fertile layer; radioactive contamination of certain village council territories;
- Groundwater pollution due to absence of sewage system in the settlements;
- Conflicts caused by the presence of dangerous objects, spontaneous dumps on the riverbanks, pollution of river beds, polluted wastewater discharge;

- Crops structure and soils;
- Conflicts between types of nature management caused by «Nasha Riaba» activities, which practically blocked the possibility of recreational and tourist activities development, and limited prospects for crop production development in the region.

*II. Potential conflicts*:

- The conflict between the different kinds of nature management (Kaniv biosphere reserve, projected), and traditional types of nature management;
- The threat of chemical and noise pollution increase (at the possible transport corridor construction sites, the route of which can run through the village council territory);
- The threat of emergencies as a result of accidents at "Nasha Riaba" treatment facilities, the need for land recultivation after closing its production sites;

These conflicts are presented on the corresponding map of conflicts at the landscape plan level (Fig. 4).

Obviously, that lack of transparency during "Nasha Riaba" enterprise agreement settlement, actual suspension of the community residents and their leadership from participation in the registration procedure and an absence of territorial planning documents led to the situation in which the Stepanetsky village council residents not only gained no significant economic and social dividends from the enterprise operation, but have also constantly been facing the negative consequences of its activities. The overall pressure on the environment, including the consumption and the pollution of scarce water resources and the air pollution, has significantly increased.

The main recommendations for decision-making is contained in the "integrated concept of objectives and measures", with detailed list of the objectives and measures for separate Council territory areas – forests, meadows, agricultural land, water bodies and their coastal zone. Conservation of valuable habitats or landscape development for recreational purposes can serve as an objective example. That is the way the grounds for the argument in negotiations with existing and future investors are

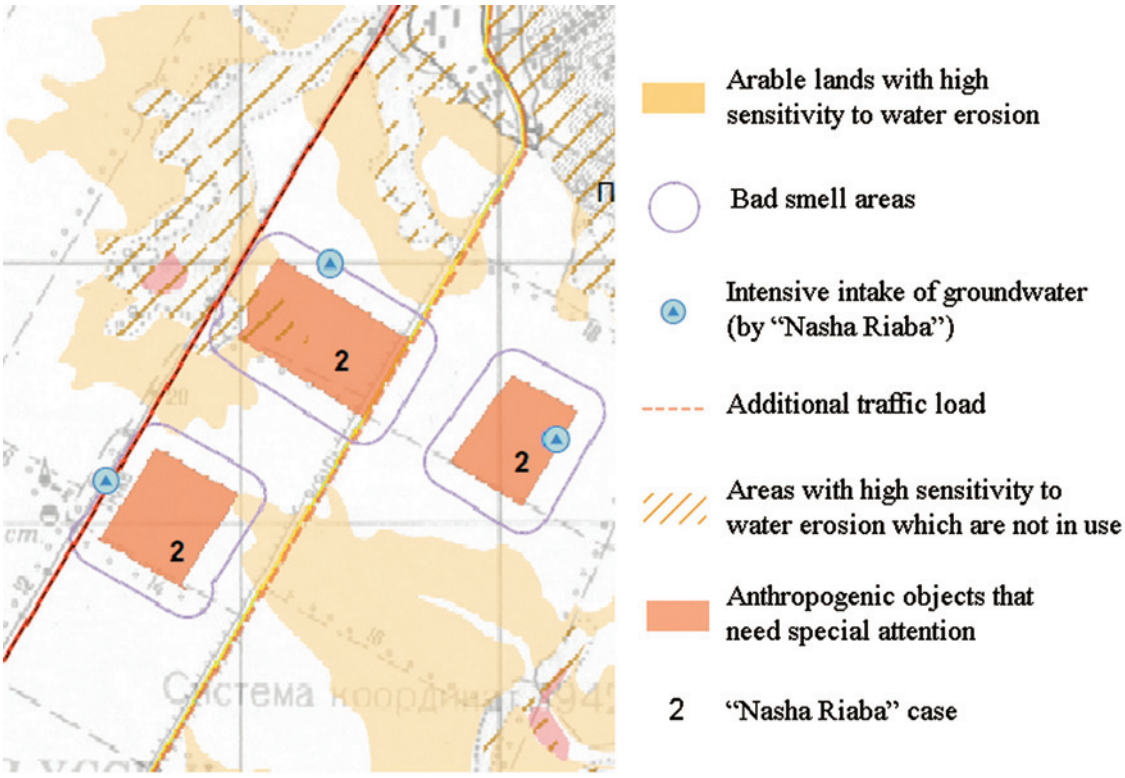


Figure 4 Natural resources usage conflicts of the Stepanetsky local community (fragment)

formed. In the process of the development of maps, the region landscape program objectives and an action plan, as well as the Kanev district framework plan have also been specified.

Given all collected information and expert assessments we can talk about the developed "roadmap" of the three council settlements - Stepantsi village, Stepanetske and Piliava, with defined objectives of the measures recommended for their achievement. The concept of a biosphere reserve creation has also taken into account the cooperation with the areas that may be included in the territory of the village council. This would be desirable for the village council scenario because, under those circumstances the cooperation with the biosphere reserve would boost the development of eco-tourism and ecologically clean agriculture, and a production of organic products under the local brand.

## The partnership and the prospects of the landscape plan implementation

One of the basic principles of landscape planning tool is the interaction and coordination of the plan decisions with all the interested parties – the State administration bodies, non-governmental organizations, communities, individual investors and land users. This principle is important for all kinds of spatial planning in modern conditions and is being gradually implemented in Ukraine.

This process is not limited to the period of the plan development and comes forth during its approval procedure. In the countries where landscape planning is defined at the legislative level, the approval of relevant documents means compulsory implementation of all planning guidelines and therefore lasts for several months and sometimes even years. In Ukraine which, despite the necessity to implement the principles of the European Landscape Convention ratified in 2005, has not adopted the law on landscapes, such planning works are implemented on the voluntary basis and are rather reasonable and updated information and analytical guidance documents designed to facilitate management activities. In general, three main stages of partnership development for the landscape plan design can be distinguished.

The first is to discuss the requirements and framework conditions for a selected region, in terms of positioning at regional and district levels, as well as internal problems and resources. This procedure took place in 2013, during the meetings at Stepanetsky village council. The range of the local community and the cooperation with major businesses located there benefit the general indicators of socio-economic development.

The second stage is a close cooperation with representatives of the village council and local residents to demonstrate the goals of the planning documents development, to collect information and data and to approve the maps' context and the texts prepared by the developers. This stage has also been successfully implemented during 2013 and one of the important measures was survey, the results of which showed that almost all respondents are willing to give preference to environmentally friendly farming technologies on the village council territories and support the creation of biosphere territories.

The third stage which implies implementation of the framework of the landscape plan, the text and the graphic application into administrative activity is the task for the future times.

## Conclusions

Historically, rural areas have a strategic value for Ukrainian economic development as well as for preservation of the national cultural heritage. Unfortunately, these areas are the most vulnerable. The Ukrainian village suffers from terrible consequences of the Soviet period, the problems of transition to a new management system, as well as the difficulties in meeting the global challenges. Therefore, it requires special attention and new approaches in management. One of these approaches is LP, aimed at achieving the goals of sustainable development on the territories of different types. For a particular rural community its implementation means creating the modern concept of development consistent with the interests of local population, features of the landscape, economy, spatial structure of the country and the region and international trends. The example of the "Landscape planning in Ukraine" project proves the feasibility of such work and demonstrates high level of community interest in solving environmental problems backed by the survey data.

Today the landscape development plan for the Stepanetsky village council consists of explanatory notes and maps, some of which

(eight) are included in the printed materials in the form of full-scale (1: 10,000) applications, and are completed. It is a comprehensive document which contains data and expert assessment of the state of all the environment's components and the economic activity within the village council, information on actual and potential natural resources usage conflicts, integral development objectives and measures to achieve them, and the potential cooperation with the biosphere reserve management, in case one is created. All the maps are made in electronic format (ArcGIS), which will facilitate their upgrade and integration with other types of planning.

To successfully continue this work it is very important to have a full government support and a legislative approval of ecologically oriented planning as a reference when developing local plans and strategies of socio-economic development and rural development programs.

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