Landscape as a driver for competitiveness of Pazarjik district in Bulgaria

Dimitre Nikolov1, Teodor Radev2, Petar Borisov2

1 Institute of Agricultural Economics, 1113 Sofia, Bulgaria, 125,Tzarigradsko shose Bl.1 dnik_sp@yahoo.com
2 Agricultural University, Plovdiv, Bulgaria, 4000, Plovdiv, Mendeleev 12 str.

ABSTRACT

This research focuses on building a specific framework and to measure the contribution of landscape to the development of rural economy. The main issues are to be determined how CAP connected what the landscape and how it contributes to the competitiveness of rural economy. Analysis is made in key sectors of rural economy of Pazarjik district in Bulgaria. The empirical result indicates that there is demand of the following landscape services: food, raw materials, fresh water, climate and air quality, spiritual experience and sense of place. Based on cascade approach it was defined the influence of CAP on rural competitiveness. Following the analysis in the paper are presented recommendations and suggestions for the improvement of the common agricultural policy.

Keywords: landscape, rural economy, competitiveness, CAP

1. MOTIVATION AND RESEARCH QUESTIONS

The provision of public goods in rural economy, as the result of the interaction between ecosystems and human management that together shape the landscape, is recognized as one of the key topics for the future of agriculture and rural policy in EU. Rural economy, through its complex inter-linkages with the landscape, can play an important role in its management. This research focuses on building a specific framework and to measure the contribution of landscape to the regional competitiveness of Pazardjik region of Bulgaria. The main research question is to determine what is the influence of the CAP connected with the landscape services and how it contributes to the competitiveness of rural economy.

The structure and composition of landscapes is determined by the interplay between landscape management and the biophysical characteristics of the environment. Often, landscape is the result of a coproduction of human and natural processes, where humans adapt their management to the spatial and temporal variation in the environment and the environment is modified by human intervention. Landscape structure and composition determine the landscape functions and, consequently, the potential supply of landscape services.

The competitiveness can be defined in several ways depending from the observation level. On the firm level competitiveness is the ability to produce the right goods and services with the right quality, price and time. For the firm it means that to meet customer's goods and services perceptions it

could be more efficiently and more effectively than other firms do the same goods and services. Competitiveness on the national level is defined as the degree, to which it can produce goods and services which meet the requirement of the free and fair conditions of the international markets. Parallel is maintaining and expanding the real income of national population for the long term perspective.

Some of the economists (Porter, E. M. 1996.) emphasize the usefulness of the competitiveness concept on the spatial level which can be used to envisage relative wealth and the level of economic activity, as well as the provisions of resources which vary between the areas. Area competitiveness is represented by variables such as employment, productivity, income, export, investments etc. The competitiveness of the area is described as a dynamic process which also includes innovativeness, the capability to adjust to changes, and improvement (Porter, E. M. et al. 2004.).

Concerning the rural areas competitiveness analysis there is an array of specific indicators which help make and interpret analyses and come to concrete conclusions. While calculating the index of rural competitiveness, some authors suggest a model consisting of the following elements: human capital, innovation, agglomeration and infrastructure. The human capital is the key factor of economic growth in the modern society based on knowledge. Innovativeness shows technological progress. Agglomeration is connected with accessibility of a rural area in the context of market proximity and quality infrastructure. It is closely related to agglomeration, due to the fact that the growth of firms in an area depends on the accessibility factor (Huovari, J., Kangasharju, A. and Alanen, A. 2001). Focusing on the sustainable rural development concept, Bryden emphasizes factors and indicators of rural competitiveness in the EU. According to him, the development factors are quality of life and social welfare, economic situation and demographics (Bryden, J. M. 2002). Regional competitiveness is generally defined as the degree to which a region's economy can compete with interregional and international markets (Thompson, 2005). A more inclusive definition of regional (territorial) competitiveness is given by the by the EU (1999), where the concept regional competitiveness consists of economic competitiveness, social competitiveness, environmental competitiveness and global competitiveness8 (Schaller et al. 2012).

The connection between competitiveness and territory we aim to analysis throw landscape concept. This concept considers landscape is a non-commodity output produced as direct or indirect outcome of the activities operating in a particular area. It is valued by society for its functions - use and non use values, ecological, recreational, cultural etc. Due to this complex nature, it produces second-order effects that are captured by the stakeholders in rural areas (farmers or others), and that generate potential markets for new activities. Therefore, through the generation of these effects, landscape contributes to boosting the economy of rural areas and is an important driver for the whole regional economy.

Parallel with competiveness of landscape services and goods we analyses impact of the Common Agricultural Policy (CAP) especially by the Rural Development Programm (RDP) of the current period (2007-2013) in the CSA. The national RDP of the current period (2007-2013) support measures that can have an added value for this new perspective of the policy. Some of them such as the agri-environmental payments and the measures designed for less favoured areas can have direct and indirect effects in the provision of landscape and in delivering landscape as environmental public

good, playing also an important role in terms of financial allocation in the current Rural Development Programmes. On the other hand the measures designed to add value to agricultural products, to provide basic services for the economy and rural population, to promote village renewal and development, and to support tourism activities seem to be appropriate to support farmers and the local economy to best capture the opportunities offered by landscape amenities and functions.

Society and economy benefit from a landscape when the supply (service flow) of services from the landscape meets a demand of the population. However, this does not always mean that the benefits of the landscape services are attributed to the regional population or the managers of the landscape that produces those services. For instance, water or climate regulating service flows often also benefit regions far from the actual landscape providing these regulating functions (Martнn-Lypez et al. 2009; Syrbe & Walz 2012). There are different ways in which the value of landscape benefits can be described, related to the nature of the particular service. In literature, four different types of values are identified (Hein 2010; MEA 2003): (1) Direct use value emerges from the direct utilization of goods and services delivered by an ecosystem or landscape, for example food provisioning. (2) Indirect use value arises from the utility of positive externalities delivered by ecosystems or landscapes. These types of benefits are delivered to society by regulating services. For instance, fresh water regulation can be considered as externality of an extensively managed agricultural landscape, only providing actual benefits to society when the services are utilized, e.g., by downstream residential areas or industries.

Following the utilitarian and, therefore, anthropocentric concept of value, landscape benefits can be quantified by their social or economic value. To estimate the importance of landscape benefits for the regional society and economy, the contribution of landscape benefits to regional competitiveness can be analyzed.

2. DATA AND METHODS

The cascade approach was implementing to define the influence of landscape on rural competitiveness. In the paper we consider following three boxes:

- *Box "Landscape (structure, composition, functions)"*

We use regional statistical data for description of landscape composition in the selected region. The structure and composition of a landscape determines the provision of landscape functions (thus: the capacity of the landscape to provide landscape services).

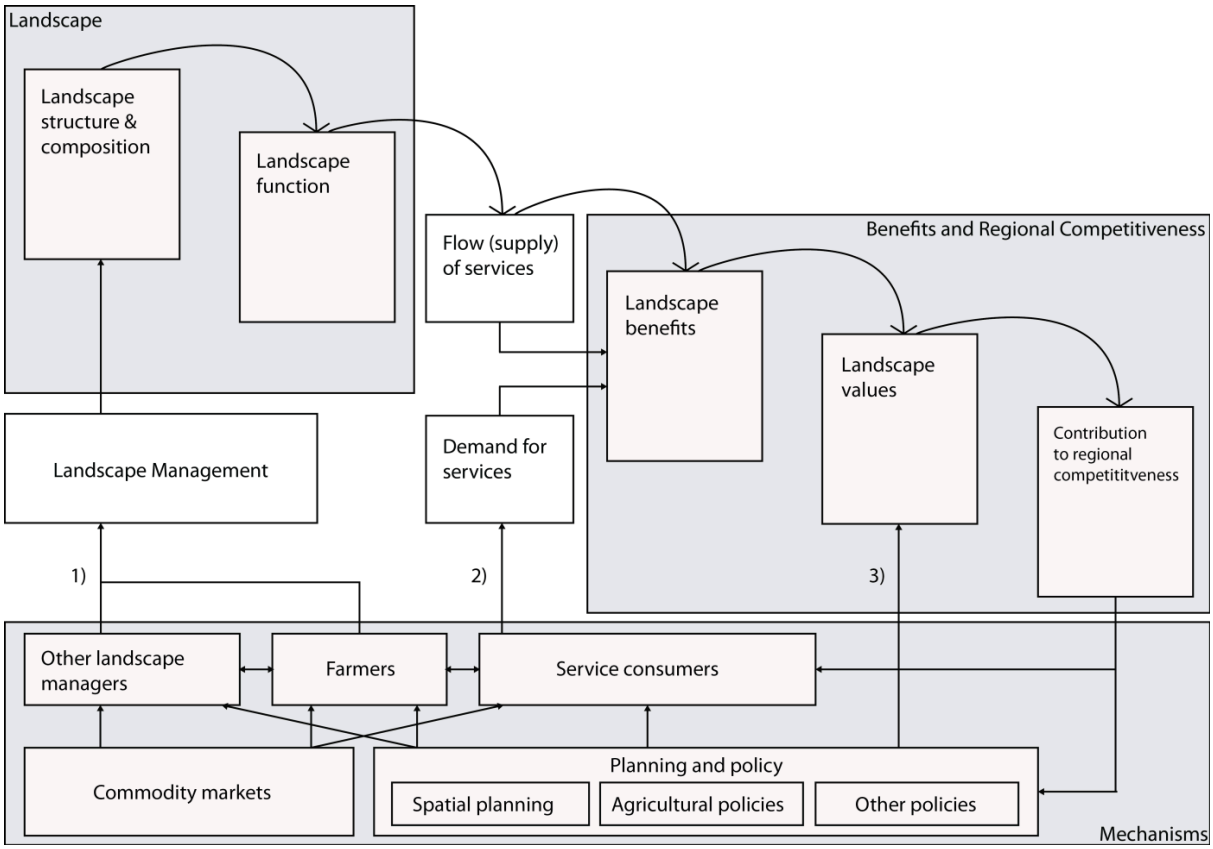
- *Box „Benefits and regional competitiveness"*

Every function has a several potential services which contribute to the major economic sectors of the region. Expert method is used for evaluation of landscape benefits and values which landspace provides. Work group of experts which are stakeholders of the reigonal economy, examine the benefits and values of landscape composition.

- *Box "Mechanisms"*

The analysis is going further examining the role of CAP to manage inter-linkage between landscape and rural competitiveness. Analysis is made in key sectors of regional economy of Pazardzik district, which are agriculture, forestry, tourism industry and trade industry.

Figure 1. Approach to define the influance of landscape on rural competitiveness



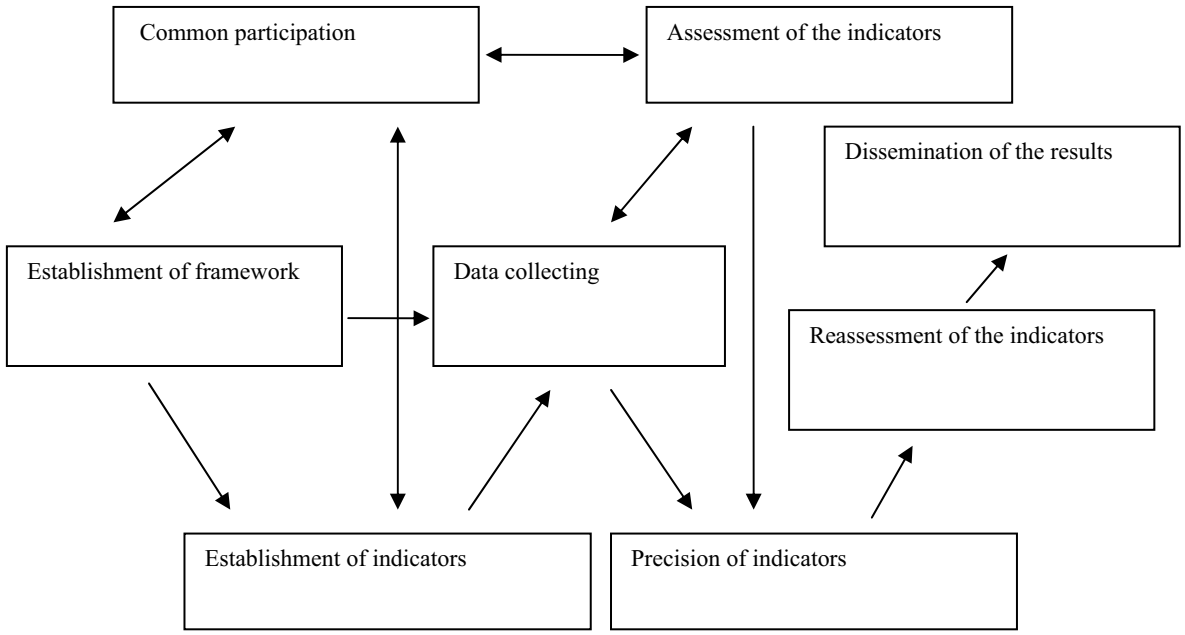
Source: Landscape services in European agricultural areas: an analytical framework to analyze the value of agricultural landscapes and the role of policy (Boris van Zanten at al. 2013)

The expert evaluation is applied as process of following steps:

1. Choosing a small working group responsible for the success of the entire study. The group should be multidisciplinary with a strong connection to the region. The working group is most effective when constituted from the outset are listed as experts and not experts focusing on their long-term commitment throughout the process;
2. Review of existing models, indicators and data. The working group is considering previous studies, which may be useful. It also identifies what indicators are published regularly by the institutions and even what data is located in an easily accessible form;
3. Drawing up a preliminary list of indicators. Working Group on the basis of their knowledge, previous studies and advice from external parties draw up a preliminary list of indicators. The list can contain multiple indicators. Later we will make edits to put a clear focus and provide the greatest degree of relevance of selected indicators;
4. Making a choice on the basis of broad consultation. Thus achieves several goals - all participants get acquainted with the proposal creates the opportunity for the development of their creativity and competence, but also makes them sympathetic to the survey results;
5. Examination of the data. At this stage, the indicators are subject to further review based on the possibilities of providing them with information;

6. Publication and distribution of the indicators. The main activities relate to the use of a clear understanding of the public language suitable visuals and conduct effective campaigns indicators;

Figure 2. Process on establishment and applying indicators to measure the contribution of landscape to the development of rural economy.



Source: Own.

To identify the linkage between landscape services and generated output of economic sectors we use quantitative and qualitative data. Also second order effects are pointed to complete the evolution of regional competitiveness.

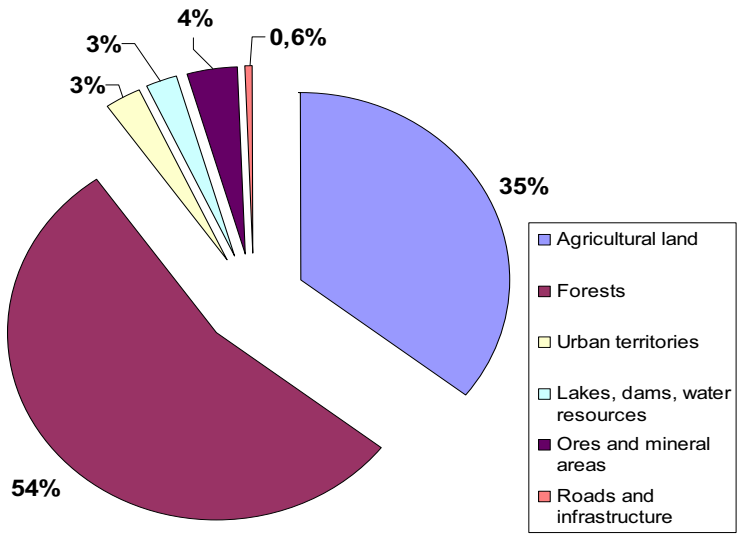
3. MAIN RESULTS

3.1. Landscape composition

Land. The composition of land is predominating by forests (54%) and agricultural land (35%). Water resources cover 3% of total area of district. Urban territory is 3%. Soils in the Pazardjik-Plovdiv plain are black earth soils; maroon soils; and deluvial-alluvial soils. The mountainous part of the region is covered mainly by Cambisols. The fertile alluvial and deluvial soils around the rivers and the so-called meadow alluvial and deluvial soils are of significance to the Pazardjik plain. They cover half of its total area. Alluvial and deluvial meadow soils are a light-yellowish in colour and they are clay-sandy, and rich in organic nutrient substances (humus is 1.5% and more). They are often refreshed by new alluviums. These soils are warm, airseeping, easy to soak, and for this reason they need to be irrigated and fertilised on a regular basis. They are favourable and fertile for many agricultural crops. Among the areas of these two types of soils, there is also another type of soil which can be often found

in the same area – the dark meadow marsh soil, which is very fertile. These are formed because of slumps in the plain, old river-beds or abundant artificial irrigation in the past. Such conditions exist by the riversides of Maritza and Topolnitza, as well as northeastwards and eastwards of Pazardjik. The Pazardjik plain contains a lot of saline soil (Solonchaks) as well, situated north of the town of Pazardjik.

Figure 3 Land distribution in Pazargjik Region



Source: Own calculation

Relief. The region's relief is diverse:

- Mountainous: parts of Ihtimanska and Sashtinska Sredna Gora, West Rhodopes, and Rila;
- Plain: Pazardjik-Plovdiv plain which is the western part of the Higher Thrace valley.

The Pazardjik plain is one of the flattest plains in Bulgaria, especially the town of Pazardjik and towards the east. It inclines towards the River Maritza. A low but wide and not-over-flooded terrace has been formed on both sides of the River Maritza and its feeders, forming some of the best alluvial soils in the whole valley.

Climate. The climate in the region varies. In the plain areas of the region spring comes early, while in mountains autumn comes early. The winter time is milder than that in North Bulgaria. The average annual temperature is 11.3°C. The rainfall in the area depends on the cyclone winds: northwestern; southwestern; southern; northeastern; and eastern. Stara planina and Sredna gora stand in the way of free penetration of rainfall from cyclone winds from the north and northwest. In this way, for the Thrace valley there is less rainfall when compared to the average annual rainfall of Bulgaria. Because Pazardjik is situated under a humid shadow from the surrounding mountains, the annual sum of the rainfall is 515mm. In Pazardjik most of the rainfall is in summer: 142 mm (27.6%)

and in spring, 27%. The summer rainfall is often torrential and not enough for agricultural produce, especially for second cultures. Characteristic features for Pazardjik are frequent droughts, mostly during the second half of July and first half from August.

Water resources. The region is abundant with water resources. The main catchment basin is the River Maritsa and its bigger feeders are the rivers to the left: Topolnitsa and Luda Yana; and feeders to the right: Kriva Reka. Yadenitza, and Chepinska reka. At the north foot of West Rhodopi, big karst springs are being used for industrial and daily needs. The most significant of them, Kleptuza, is situated close to the town of Velingrad. There are many artificial lakes also in the region: Batak, Goliam Beglik, Malak Beglik, Belmeken, Shiroka Poliana, Dospat, Topolnitza. All these lakes are being used for the production of ecologically clean electricity from hydro-power plants and for irrigation purposes. An important source of water is subsoil and underground. Other valuable water resources are the thermo-mineral waters in Bania, Strelcha, Bratzigovo, Belovo, Rakitovo, Velingrad and in the Chepinska Reka valley. These geothermal sources are conducive to the development of balneology tourism, which may be combined with high-altitude tourism. This can become a main source of revenue in most of the Municipalities.

3.2. Landscape functions and services

The landscape functions are devided into following four groups (by methodical apporoach): **provisioning, regulating, cultural&amenity, and habitat&supporting**. Every function has a several potential services which contribute to the major economic sectors of the region. According to expert evaluation in landscape function called „Provisioning“, major services are provisioning of food and raw materials. Food provisioning is vital and benefits major rural sectors as agriculture, tourism industry and trade industry. Vast area covered with forest (54% ot total territory) benefits timber industry and forest holdings. Also landscape provides raw materials which benefits trade industry.

Table 1. Landscape functions, values and benefits

Indicators	Agriculture	Forestry and timber industry	Tourism industry	Trade, Industry, Services
Provisioning				
Food	**X**		**X**	**X**
Raw materials		**X**		**X**
Fresh water			**X**	**X**
Medicinal resources	**X**			
Regulating				
local climate and air regulation	**X**	**X**	**X**	**X**
moderation of extreme events	**X**			
nutrient recycling			**X**	**X**
waste water treatment	**X**		**X**	**X**
pollination	**X**	**X**		
biological control	**X**			
Cultural				

recreation and mental/physical health		**X**	**X**	
aesthetic apreciation			**X**	
inspiration for culture, art, design				
spiritual experience and sense of place			**X**	
Habitat &Supporting				
habitats for species (hunting, watching,)		**X**	**X**	
Other relevant				

Source: Own elaboration

Vital regulating functions of landscape are local climate and air regulation, and waste water treatment. The good climate conditions of region benefits all major economic sectors. Waste water treatment benefits local agriculture, tourism industry and trade industry, by increasing productiveness (irrigated agriculture), reducing expenditures for water treatment.

Landscape service called „Cultural" benefits forest and tourism industry. Landscape benefits tourism industry by providing recreation and physical health for tourists and local citizens. Landscape provides habitats for species which benefits tourism activities such as hunting and watching.

Accoridng to the expert evaluation major contributors for development of agriculture, forestry, tourism and trade industry is provisioning and regulating services of landscape. The focus group of experts pointed that in future landscape composition and function will influance regional economy as follow:

- Various relief characteristics, along with the available water resources provides conditions for development of electrical energy production through water power stations and cascades;
- High mountain areas provide opportunities for the development of ski tourism;
- Medium-high mountain regions, fertile soils and variety of climate conditions are suitable for development of organic farming and animal breeding.

3.3. Contribution of landscape to the regional competitiveness

Table contains information about the indicators that characterize the competitiveness of the regional economy. It is noted that labor productivity in the region is higher than the national economy. Pay of employees in the regional economy is also higher than average.

All these indicators of regional competitiveness have levels above those nationally. In their formation was taking into account the influence of three major industries using the services of landscape. The results of the agricultural sector indicators GDP per employee and local wages are nearly two times higher than the national average. This defines agriculture as a key sector contributing to the competitiveness of the region. The other two sectors - tourism and trade have contributed to higher levels of the local wages. Nevertheless, they have weaker positive impact on regional competitiveness than agriculture.

Table 2. Competitiveness of the regional economy

Indicators	Unit of measure	According to the national level (%)

Regional economy			
Gross value added/employee	7994.9	Euro	154.4
Gross domestic product/employee	27039.1	Euro	160.0
Local wage level	3113.6	Euro	132.6
Agriculture and forestry			
Gross value added/employee	6510.5	Euro	125.4
Gross domestic product/employee	18550.2	Euro	199.3
Local wage level	2990.1	Euro	185.5
Tourism industry			
Gross value added/employee	7255.1	Euro	133.5
Gross domestic product/employee	26511.5	Euro	121.7
Local wage level	3250.5	Euro	190.1
Trade industry			
Gross value added/employee	6950.6	Euro	115.5
Gross domestic product/employee	23580.1	Euro	120.2
Local wage level	3010.1	Euro	150.5

Source: www.nsi.bg

3.4. Second order effects

Direct socio-economic benefits arise from the management of landscapes: the maintenance, conservation and restoration of specific landscape elements (e.g. hedgerows and tree rows, rural and farm traditional buildings, terraces and stone walls, fencing etc.) can provide additional employment opportunities and returns for the farmers, thus representing a way to diversify on-farm activities.

Indirect socio-economic benefits arise from landscape functions and amenities: the development of rural tourism linked with the attractiveness of specific landscape amenities can stimulate additional on-farm activities, such as renting accommodation on the farm and the direct selling of farm products, in local stores, markets, etc. Moreover, niche-market opportunities can arise for the selling and marketing by farmers of local products with high value-added (food, craft products etc.); finally a positive "image" can stimulate the general demand for local products.

Tourism in the region has been boosted for last 5 years. The district is famous with mineral springs and mountain lakes which attract a lot of tourists all year. There is an agency of Sustainable Tourism Development assist locals with development projects, advertising campaigns, organization of cultural events.

Within the region successfully implemented various programs and policies for the **protection of the natural environment** that supports the desired landscape condition. Applying water legislation lead to sustainable use of water resources and preserving the image of the region. The same influence has environmental schemes on conservation of natural resources.

3.5. Policy Impact

The tax policy of the country has a strong impact on agriculture. From 2011 income from agricultural activities are subject to income tax. Ownership of agricultural land is not taxed, which discourages the inclusion of set-aside land in economical turnover. The overall estimation of tax

system influence on farmers is considered as none stimulated for their development. Another specific feature is that land market is not well developed. Trade with ownership rights is not populated, there are have been done 1398 contracts of sale of land at average price 1520 Euro/ha. Landowners prefer to give their land to rent for short periods. It does not encourage tenants to make long-term investments to improve the landscape.

Implementation of the Single Payment Scheme (SAPS), one of the main instruments of CAP. The payment is fixed per hectare of land used and is not tied to production or number of captive animals. The number of candidates SAPS has increased by 11 percent - from the beginning of the campaign in 2007, and now has reached its optimal level. The number of parcels has increased by nearly 15%. Direct payments has not satisfied impact on income of small-size farms /they are predominated in the region/. This is the main reason farmers to prefer de-minimis payments. The CAP is not enough supporting vegetable and fruit growing farmers.

In the region the total amount of direct payments in period 2007-2012 is 8 428 323 €. Payments cover 56 459 ha or 40% of agricultural land in the Pazardjik region. Measure 214 Agro-environment payments are one of the most important measures for maintaining the landscape. The total budget for this measure amounts to over € 2 million. Share of the measure 214 represents 12.5% of total direct payments in the Pazardjik region. The most popular actions undertaken by farmers in measure 214 are shown in table below. The composition of regional landscape is predominated by grassland, set-aside and forests which is the main reason for popularity of the following actions:

- Maintain pastures - 49% of all adopted proposals;
- Maintain or introduce extensive grazing practices - 20% of all adopted proposals;
- Organic farming - 19% of all adopted proposals.

Table 3. Actions delivering "agrarian landscape" under the Agro-Environment Measure (214) for 2007-2012 in Pazardjik region

Actions	Adopted proposals
Organic farming	77
Organic bee keeping	15
Maintain pastures	198
Maintain habitats of protected birds	1
Maintain and manage traditional orchards	12
Introduction of rotation to protect soil and water	1
Control of soil erosion	6
Use of local, rare breeds of livestock	12
Maintain or introduce extensive grazing practices	82

Source: http://prsr.government.bg/

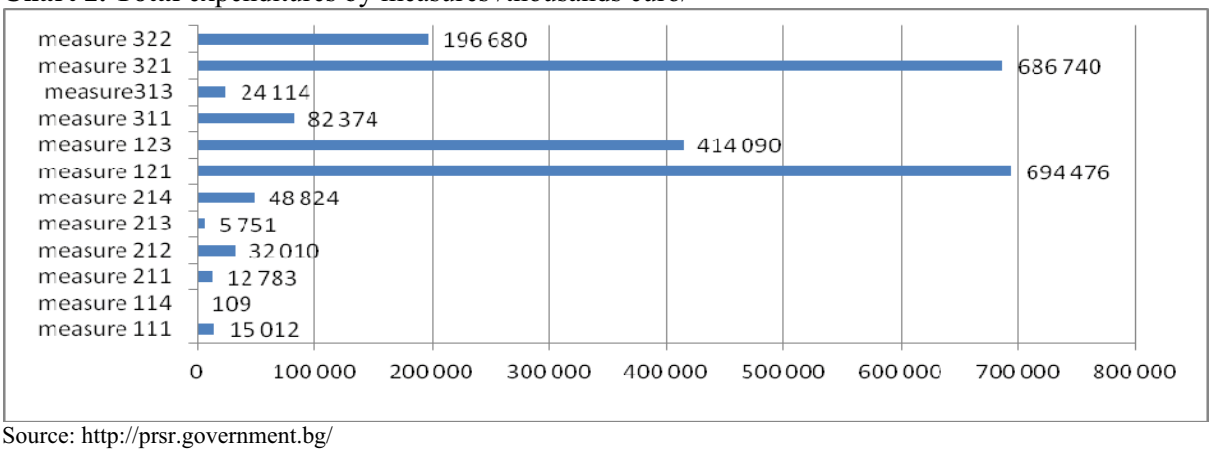
Considering the implementation of the CAP pillar II Rural Development Program in the region, the conclusion is that the measures are relevant and contribute regional development. In the matter of fact the adoption of them must be accelerated in order to achieve economic and social benefits in certain areas. The main results are:

- Some measures /114, 122, 213/ contributing the landscape are not implemented in Pazardjik region;
- Measures of the group of related services and activities are the most important. They are 88% of total expenditures;

- Measure 321 and measure 121 are the most favourable in the region. They account for more than 50% of expenditures;
- Costs on measure 321 are assign for Water supply network and Sewerage and purifying;
- There is an increasing interest to measure 211 and measure 212 recently;
- The most spread activities in measure 214 are Maintain pastures, extensive grazing practices, biofarming.

The chart below provides a more detailed overview, by single measure, of the financial weight of the rural development measures identified in the line of landscape, with respect to the overall financial envelope for national rural development programme.

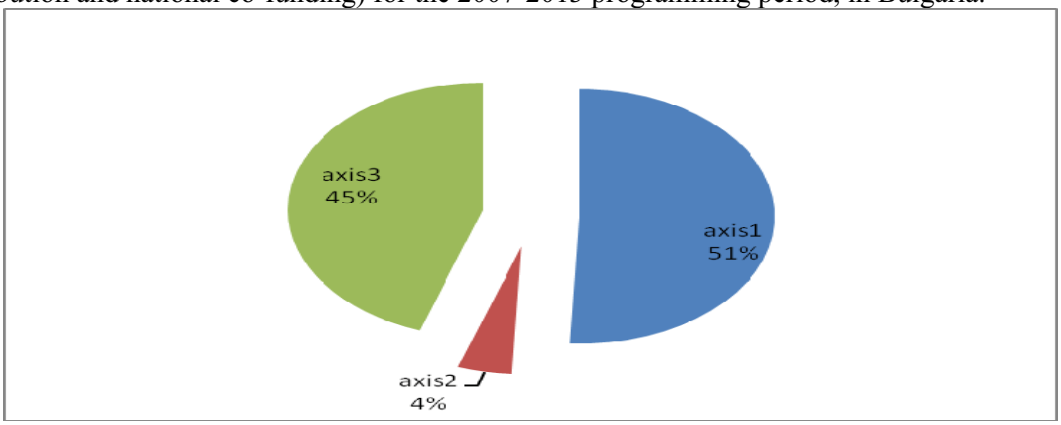
Chart 2. Total expenditures by measures /thousands euro/



Source: http://prsr.government.bg/

Measure 321 and measure 121 are the most favourable among Bulgarian beneficiaries. Expenditures on these measures exceed the followings in several times. As reasons can be pointed the low level of modernization of holdings and not well-provided rural areas with infrastructure so there is a necessity of big investments in these directions. Other measures 114 and 213 don't report any costs because of rejection of all proposed projects.

Chart 3. Relative importance of CAP axis, in terms of total allocated expenditure (including EAFRD contribution and national co-funding) for the 2007-2013 programming period, in Bulgaria.

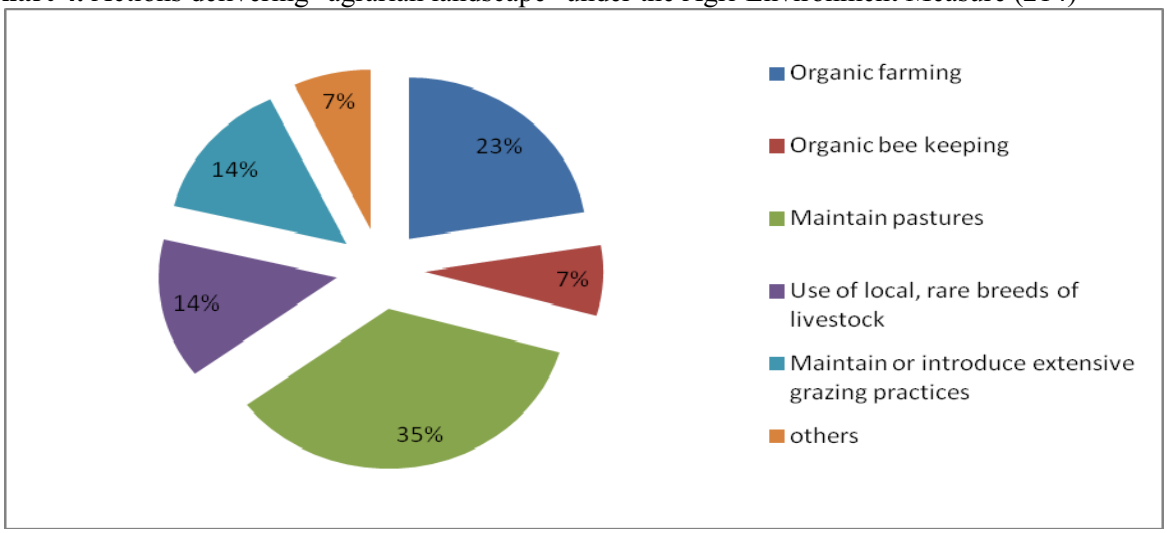


Source: own elaboration based on the financial plan – programming period 2007-2013

Measures 321 and 121 account for more than 50% of the budget allocated across all the rural development programmes. Basic services for the economy and rural population (measure 321) cover, alone, some 30% of the total allocation.

Concerning in particular the Agri-environmental measures is applied only. The significance of this chart and figures for assessing the contribution of rural development programmes to the direct provision of landscapes has however to be taken with caution since measure 214 covers a wide range of environmental objectives, not necessarily in connection with the provision of landscapes.

Chart 4. Actions delivering "agrarian landscape" under the Agri-Environment Measure (214)



Source: http://prsr.government.bg/

Concerning the measures identified as "indirectly related to landscape", the most important, in terms of budget allocation, are the measures targeted to Less Favoured Areas which cover payments to farmers in areas with handicaps in mountain areas (measure 211) and in other areas (measure 212) and which respectively account for 67% and 20,1% of the total „indirect" measures. These two measures are particularly important for the conservation and preservation of landscape in the areas concerned. The first objective of these measures is in fact to avoid land abandonment, which can have negative consequences for the countryside as a whole and also for landscapes.

Table 3 below is based on the results of the Evaluation of RDP in Bulgaria and shows an increasing interest to the measures in the last two years. These results do not give any information on the importance of these actions in terms of public expenditure within the programmes, only the amount of expenditures is reported.

It is reported increasing interests to these measures during the last year. Expenditures at year base raise as well the number of selected proposal. Rural Development Programmes contribute landscape in mountain areas better than other areas.

Table 3 Number of submitted and selected proposals on M 211 and M 212 by years

Year	Measure 211			Measure 212		
	Submitted proposals	Selected proposals	Expenditures (000 euro)	Submitted proposals	Selected proposals	Expenditures (000 euro)
2007	22.649	22.646	12.377	9.417	9.411	3.786

2008	24.151	24.026	11.505	10.017	9.977	3.801
2009	26.246	26.134	18.436	10.835	10.793	4.642
2010	29.031	28.308	15.522	11.619	11.301	4.234
2011	29.210	28.265	19.403	11.489	11.194	6.719
2012	27.081	26852	24.896	11.227	11.103	8.053
Total	**158.365**	**156.827**	**102.139**	**64.600**	**63.963**	**31.235**

Source: http://prsr.government.bg/

Concerning the group of measures potentially supporting landscape-related activities and services, the most important in terms of total public expenditure allocated is the Axis 3 measure 321 „Basic services for the economy and rural population" and the Axis 1 measure 121 „Modernisation of agricultural holdings". They account for 66% of the total budget. No relevant actions under this measures have been found by means of the screening exercise, in the Rural Development Programmes as delivering agrarian landscapes.

Finally, the measure 123 "Adding value to agriculture and forestry products" absorbs over 16% of the budget. However as for the measures 321 and 121 no relevant actions targeted at delivering agrarian landscapes have been found under this measure. All the other measures are of minor importance, each of them absorbing less than 4% of the total public expenditure of all Rural Development Programmes. Overall, the relative importance of these measures can vary significantly.

This measure 321 provides support to cover the setting up of basic services for the rural population - maintenance and constructing of water supply networks and sewerages. Other activities as cultural, social and leisure activities are also objects on investments. Roads contribute for boosting the economy of rural areas and also improve the landscape. All expenditures in these activities make the landscape more attractive for people.

4. CONCLUSIONS

The structure of the regional economy is almost constant activity over the past 10 years. The competitiveness of the region is above average compare with the country level. For this evaluation main contribution is higher productivity of the main economic sectors. The main sectors are agriculture and forestry, tourism and trade industry. Well-preserved natural environment is an opportunity for the development of tourism and related sectors such as trade, services and transport. Contribution of landscape benefits to the Regional Competitiveness and Regional Welfare are:

- Health and well-being;
- Good image of local foods;
- Attractive tourists services;
- Stimulate investment activity;
- High productivity of agriculture

CAP direct payments support a substantial income for farmers. Generally, these payments have a large effect on cereal production. Crop rotations are dominated by a mono culture that reduces biodiversity and increases the risk of soil erosion. The current CAP changes the landscape structure and meadows become farmland.

Future CAP could promote cooperation between local actors and keep the leading role of the local action group in rural development. Climate changes impose a problem with risk management in rural areas and better management of natural resources. Additional focus could be on renewable energy, encouraging entrepreneurship, and linking rural with urban markets.

AKNOWLEDGMENTS

The research reported in this paper was funded by the European Commission within the project "Supporting the role of the Common agricultural policy in Landscape valorisation: Improving the knowledge base of the contribution of landscape Management to the rural economy" (CLAIM), 7th Framework Programme, contract n. 222738 (*www.claimproject.eu*).

REFERENCES

Boris van Zanten at al. (2013) www.claimproject.eu/docup/Deliverable_D3.18_def4.pdf, Claim Project "Supporting the role of the Common agricultural policy in Landscape valorisation: Improving the knowledge base of the contribution of landscape Management to the rural economy" Call identifier: FP7-KBBE.2011.1.4-04

Bryden, J. M. (2002) Rural development indicators and diversity in the European Union. Measuring Rural Diversity, Conference Proceeding, Economic Research Service, Washington, DC www.srdc.msstate.edu/ trainings/presentations_archive/2002/2002_bryden.pdf

Brouwer, R., Slanger, L. H.G. (1998). "Contingent Valuation of the public benefits of agricultural wildlife management: The case of Dutch peat meadow land". *European Review of Agricultural Economics 25*: 53-72

Cooper T., Hart K. and Baldock D. (2009).Provision of Public Goods through Agriculture in the European Union, IEEP, 30-CE-0233091/00-28.

de Groot, R. S., R. Alkemade, L. Braat, L. Hein, and L. Willemen. (2010). *Challenges in integrating the concept of ecosystem services and values in landscape planning, management and decision making.* Ecological Complexity 7:260-272

Fisher B., Turner R.K., Morling P. (2009). Defining and classifying ecosystem services for decision making, *Ecological Economics 68,* 643-653

Huovari, J., Kangasharju, A. and Alanen, A. (2001). Constructing an Index for Regional Competitiveness. Pellervo Economic Research Institute, Helsinki, Finland, Working Paper No. 44, 23 p.

Millenium Ecosystem Assessment. (2005). Ecosystem and human well-being: a framework for assessment. Report of the conceptual framework group of the Millenium Ecosystem Assessment. Island Press, Washington, DC.

Porter, E. M. (1996). Competitive advantage, agglomeration economics and regional policy. *International Regional Science Review* :85-90.

Porter, E. M., Ketels, C., Miller, K. and Bryden, T. R. (2004). Competitiveness in Rural U.S. Regions: Learning and Research Agenda, Institute for Strategy and Competitiveness, Harvard Business School, USA. http://www.eda.gov/ImageCache/EDAPublic/documents/ pdfdocs/eda_5frural_5fregions_5ffinal_2epdf/v1/ eda_5frural_5fregions_5ffinal.pdf.

Sieber S, Zander P, Verburg P., Van Ittersum M (2010) Model-based systems to support impact assessment -Methods, tools and applications. *Ecological Modelling* 221:2133-2135.

Verburg, P.H., Berkel, D.v., Doorn, A.v., Eupen, M.v. and Heiligenberg, H.A.R.M.v., (2010). Trajectories of land use change in Europe: a model-based exploration of rural futures. *Landscape Ecology* 25(2): 217-232.

Waltert, F. and F. Schläpfer. (2010). Landscape amenities and local development: A review of migration, regional economic and hedonic pricing studies. *Ecological economics* 70:141-152.