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## SUSTAINABLE DEVELOPMENT OF RURAL AREAS: A CHALLENGE FOR ROMANIA

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### **Abstract**

Integration in the European Union has faced Romania with new challenges and objectives out of which sustainable development in rural areas is a priority. A diverse and efficient rural economy is needed, capable of generating resources that will increase the quality of life and observe environmental protection. The analysis presented in the paper brings into evidence economic, social and environmental characteristics from the Romanian rural areas, compared to EU-27 and a series of developed countries (Germany and France) or which joined EU later (Poland and Hungary). The research results highlight major disparities between Romania and the countries surveyed concerning the development on the principles of sustainability in the rural areas.

**Key words:** quality of life, rural area, rural economy, sustainable development

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### **1. Introduction**

The economic, social and ecological aspects of the rural area are of a complex nature and have profound implications in founding sustainable development policies. The urbanization process emphasized during the last two centuries due to fast industrialization has become one of the global problems of humanity due to economic, social and cultural disparities, which characterize urban and rural civilization (Satterthwaite, 2007).

The rural area holds an important place in the history, civilization and national identity of European countries, both by the means of spatial and demographic dimensions and the economic, social, cultural and ecological dimensions. That is why, the important role the rural development policy has in the European policies, comes to us as natural. The future of Europe depends greatly on using the rural area development potential on sustainable principles (Renting and Schaer, 2006).

Sustainable rural development is a multidimensional concept which supposes an

equitable and balanced development within the rural area, an increased level of social cohesion and inclusion, the assuming of responsibility for using natural resources and environmental protection (Bleahu, 2005). These objectives can be achieved through adequate public policies, which should trace the rural area population adjustment to economic, social and cultural changes in order to have a high quality of life according to current standards (Prus, 2012; Spellerberg et al., 2006).

The rural development policy was introduced as a second pillar of the Common Agricultural Policy (CAP) through the action programme Agenda 2000. This programme is the natural result of adjusting the CAP to new challenges the EU has to face and includes more new objectives such as: food safety and quality, integration of environmental concerns into the agricultural policy, developing the vitality of rural areas (EC, 2011a).

In 2003, a profound CAP reform took place through which the financial support was disconnected from the production activity and a new Single Payment Scheme was introduced, based on

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direct subsidy payments to landowners. This measure allows farmers to found economic decisions in agreement to market requests. The reform also promotes quality and animal welfare, the respect for standards on environment and stimulates extensive agricultural practices.

The regulation in September 2005 of the European Communities Council (EC, 2005) oriented support for rural development by the European Agricultural Fund for Rural Development within the period 2017-2013 towards three major objectives: improving the competitiveness of agriculture and forestry sectors, improving the environment and the countryside by supporting land management and improving the in rural areas and encouraging diversification of economic activity (Spellerberg et al., 2006).

The Europe 2020 strategy offers the perspective of a smart, sustainable and inclusive growth (EC, 2010a). According to the EU 2020 strategy, the Commission presented a set of legal proposals for the Common Agricultural Policy after 2013 (EC, 2011b), which establishes six Union priorities for rural development: "fostering knowledge transfer and innovation in agriculture, forestry and rural areas; enhancing competitiveness of all types of agriculture and enhancing farm viability; promoting food chain organization and risk management in agriculture; restoring, preserving and enhancing ecosystems dependent on agriculture and forestry; promoting resource efficiency and supporting the shift towards a low-carbon and climate-resilient economy in the agriculture, food and forestry sectors; promoting social inclusion, poverty reduction and economic development in rural areas".

The problem of the rural area sustainable development was approached through specific research in the academic environment. Our former researches intended to analyze how Romanian rural economy adjusts to the European policy from the perspective of sustainable development (Burja and Burja, 2008) and the emphasis placed on some aspects, projects and action directions concerning the sustainable development of the Romanian rural areas (Burja et al., 2008). Other studies introduce the quality of life in Romanian rural areas (Neculai, 2012), the impact of the CAP reform on the Romanian agrarian economy (Popescu and Andrei, 2011) and the Romanian rural economy which might be an economic growth resource or a source of conflicts and insecurity (Săvoiu et al., 2007).

The indicators characterizing the quality of life within the rural area have in Germany generally, values superior to the EU average. Infrastructure investments, economic activities diversification, quality of the environment, the leisure opportunities and the lower cost of living, constitute obvious arguments for location establishment within the rural area of Germany. However, there are disparities between Eastern and Western Germany resulting from reunification due to economic lower performances and cultural differences in the former

GDR (Bruyninckx et al, 2012; Spelleberg et al., 2006).

French agriculture contributes by almost 20% to EU's agricultural goods output. Lately, the development scenarios in French rural areas have been based on the concept of multi-functionality taking into account the diversification of economic activities, residential and recreation areas, the preservation and conservation of natural resources (Perrier-Cornet, 2006).

Poland's rural area has many common characteristics with Romania's concerning rural economy, quality of life and sustainable development perspectives. Agriculture has an unfavourable structure of farms, differences in profitability between small and large farms are recorded and it is based on extensive production methods and low capital intensity, but high labour intensity (Prus, 2012). The opportunities for employment outside agriculture are limited and consequently, the inhabitants' incomes and the quality of life are low. Nevertheless, there are numerous opportunities, which exploited, may lead to agricultural and to rural area sustainable development within the two countries.

Over the last 20 years, the rural areas of Hungary have undergone important economic, social and political transformations. Agriculture has reduced its importance in production, income and employment but has nevertheless remained a determining force in rural areas. The objectives of Hungary's rural development policy are aimed at increasing the vitality of agriculture and food production, strengthening local activities and local economy, increasing the number of jobs in rural areas, preserving the rural population and restoring a demographic balance, preserving natural resources and improving the quality of rural life (Pap and Eniko, 2012).

The rural areas development in Romania and the other European countries can only be achieved on sustainable principles, in agreement to new challenges of contemporary civilization. This development pattern needs, however, adequate public policies, based on reality knowledge and adequate implementation.

The purpose of our paper is to evaluate the current situation of the Romanian rural areas from an economic, social and environmental perspective, to signal the problems it faces within the real convergence process with EU, and to establish some future development measures in agreement to sustainable development principles. The presented analysis offers an important perspective concerning the possibility of reaching the strategic objective provided by the National Sustainable Development Strategy for the year 2020: "to reach the current average level of the EU countries for the main indicators of sustainable development" (NSDS, 2008). The mentioned aspects are many times common to other countries' that later joined the Union and that is why the evaluations in the paper

may be useful to authorities with national and international competence for reaching the objectives of Europe 2020.

## 2. Materials and methods

In order to achieve the aim of the paper, we used a descriptive analysis based on the comparison procedure, which should establish the level of economic development and the quality of life within Romania's rural areas in comparison to EU-27. The comparison to Poland and Hungary, which have accessed EU later and to two other developed countries, Germany and France, was done in order to emphasize real disparities within the rural areas, on the three sustainable development components: economic, social and environmental. The respective countries have an agricultural potential similar to Romania's and that is why the evaluation of disparities in agriculture constitutes an important element of this paper.

The comparison to Germany and France allows for a realistic substantiating of the rural development policies in Romania in order to reduce the disparities against EU's developed countries, while comparison to Poland and Hungary highlights Romania's position against two countries which have implemented socio-economic reforms similar to those in Romania.

Defining the rural areas was done according to OECD methodology (OECD, 2010), which was found agreeable by the European Commission in 2010 in order to favour international comparisons. This methodology is based on the percentage of population living in local rural units and classifies the regions (NUTS 3) in: predominantly urban (PU), intermediate (IN) or predominantly rural (PR). Another classification used by Eurostat in the Labour Force Survey is based on the concept of "degree of urbanization" and identifies three types of areas in order to differentiate between urban-rural: Densely populated area (DPA), Intermediate density area (IDA) and thinly populated area (TPA).

In order to cover all issues related to sustainable development of rural areas, we selected a series of representative indicators used by the European Commission to monitor objectives of the rural development policy, namely economic situation/competitiveness, socio-economic situation, environmental aspects, diversification and quality of life in rural areas (EC, 2006).

The paper involved the use of information about the sustainable development policy within the rural areas received from the Romanian Government, the European Commission, the European Parliament and the Council of the European Union. The data used in the analysis come from reports and studies belonging to the respective institutions, from Eurostat statistics and publications and from the Romanian National Institute of Statistics.

## 3. Analysis and discussions

The future development of Romania cannot be accomplished without sustainable development within the rural areas. These areas possess Romania's main natural values; it represents the cultural identity of the country and is an example of social unity. The base functions of the rural areas, economic, ecological and socio-cultural, represent the key dimensions of sustainable development.

The industrialization phenomenon has become strongly significant during the second part of the 20th century, which led to diminishing the weight of population living in the rural areas and of agriculture to the gross domestic product. Nevertheless, the importance of the rural areas has not decreased; on the contrary, it is enriched with new dimensions and has become an important theme of national and international policies. Sustainable development of the rural areas is a fundamental direction of the communitarian policy following equitable and balanced economic development of rural areas, a high level of social cohesion based on a high quality of life as well as the security of environmental protection.

The importance of the rural areas in Romania and the European Union is proved by its dimension offered by the region classification agreed by the European Commission in 2010, starting from the methodology used by OECD. This methodology classifies the regions in three categories: predominantly urban, intermediate or predominantly rural. From this perspective, the national characteristics of Romania's rural areas in comparison to EU-27 and of a series of developed countries (Germany and France) or the recently integrated (Poland and Hungary) are presented in Table 1. As can be seen in Table 1, in both Romania and Hungary, the largest part of the territory belongs to predominantly rural and intermediate regions.

**Table 1.** Importance of rural areas (year 2009) (EC, 2012)

Country	% Territory			% Population			% Gross value added			% Employment		
	PR	IN	PU	PR	IN	PU	PR	IN	PU	PR	IN	PU
EU-27	56.7	34.2	29.1	23.6	35.5	41.0	17.2	31.6	51.2	21.7	34.0	44.4
Germany	39.8	48.3	11.8	17.3	40.1	42.6	14.5	35.7	49.8	15.7	38.3	46.0
France	64.6	27.3	8.1	28.7	35.7	35.6	21.7	31.0	47.3	25.7	33.7	40.5
Hungary	66.3	33.1	0.6	47.1	35.8	17.1	33.6	27.6	38.9	39.2	29.0	31.8
Poland	56.2	34.5	9.3	37.9	33.9	28.3	27.2	31.1	41.7	34.1	31.4	34.5
Romania	59.8	39.4	0.8	45.7	43.8	10.5	32.4	42.8	24.8	41.5	46.5	12.0

PU - predominantly urban, IN – intermediate, PR - predominantly rural

Also, the biggest part of population from these two countries lives in rural areas. In contrast, in Germany and France the population percentage from the regions predominantly urban is higher. A similar situation is also recorded by the contribution of the regions predominantly rural in Romania and Hungary to establishing the gross value added, which exceeds almost two times the weight from EU-27.

The dimensions of sustainable development of the rural areas are strongly connected between themselves. No high quality of life can be accomplished without an adequate economic development, which should ensure the inhabitants in the rural areas with decent incomes and attract adequate infrastructure, adequate professional training, cultural level based on traditions but also on the realities of the current millennium beginning. Szymańska and Biegańska (2012) highlighted that there is a connection between population density, and infrastructure and housing. The economic development must ensure the environmental protection, which also conditions the quality of life for the present and future generations.

The rural development policies imply the complex particularities of the rural areas to which they address and are related at the same time to national and European rural policies. The foundation of these policies is based on an attentive and deep analysis of the existent situation, of development tendencies assessment, of opportunities and threats identification, of priority setting according to existent resources and of the objectives to reach within the time horizon.

### *3.1. Structure and performances of rural economy in Romania*

The analysis of the development level of rural economy and quality of life in Romanian offers the perspective of founding some coherent and realistic policies for sustainable rural development. The comparison between Romania and some of EU developed countries and recently integrated countries offers the possibility of appreciating disparities, of establishing fundamental objectives, of monitoring the reached stadium in their accomplishment and of identifying the future development directions.

Although there are significant differences in Romanian rural economy, it is mainly agricultural, as results from Table 2. Agriculture holds a share of 60.5 % of Romania's rural economy while at the level of the European Union, the share is of only 14.1 %.

The food industry contributes to the growth of the value added of agricultural products and ensures besides agriculture the population's security in food. In Romania, the food industry accomplished 5.6% of the total gross value added (GVA) in the year 2010 and in the EU-27 it contributed with 2% to establishing the GVA. This industry is however less present in Romania's rural economy (15.6%) than in

the EU-27 (20.5%), being developed in the urban area.

**Table 2.** The structure of rural economy: Romania-EU (%), 2008 (ACAD, 2008)

<i>Rural economy</i>	<i>Romania</i>	<i>EU-27</i>
Agriculture	60.5	14.1
Food industry	15.8	20.5
Tobacco industry	1.7	3.2
Fishery	0.1	2.5
Agro-food economy	(78.1)	(40.3)
Forestry	(6.3)	(8.2)
Mining and quarrying	2.6	4.1
Manufacturing	3.1	5.2
Industrial economy	(5.7)	(9.3)
Agro-tourism	0.1	4.4
Other services	9.8	37.8
Services sector	(9.9)	(42.2)
Non-farm economy	(21.9)	(59.7)
TOTAL	100.0	100.0

The industrial economy and the jobs contribute to the population settlement in the rural environment and to their quality of life growth through the incomes offered to employees by small and medium enterprises (Davis, 2003). In Romania, the non-farm economy is weakly developed (it holds 21.9% from rural economy) in comparison to the EU-27 average (59.7% of rural economy).

Romania's real convergence with the EU states supposes an economic development based on the principles of modern economies in which the value added is created especially in the tertiary sector. From this perspective, the structure of gross value added on national economy sectors and on regions in Romania comparatively to the analyzed states is presented in Table 3.

In the European Union, the services in predominantly rural regions contribute with 67% to the establishment of value added and in Romania with only 50.4%. France is a country with renowned touristic destination and as a consequence, the service sector is well developed in the rural areas contributing with 72.8% to the GVA creation. In Hungary and Poland, the situation of the tertiary sector from the rural areas is better than in Romania but still, far away from the EU-27 average.

The secondary sector (mining, manufacturing, construction, utilities) from Romania in predominantly rural regions contributed with 37.4% to the GVA, over the EU-27 average, where the contribution of this sector is 29.1%. The primary sector (agriculture, forestry, and fishery) represented 12.3% of the value added in predominantly rural regions in Romania in contrast to only 3.9% in EU-27. This aspect comes as an additional argument regarding the increased weight of farm economy within the Romanian rural areas.

Development of economic activities from the rural areas for assuring convergence with the rural areas in EU and implementation of the CAP

objectives in Romania supposes a national and communitarian intensive support. This must be directed towards the foundation of small enterprises in the non-agricultural sector, formation of entrepreneurship competences and new abilities, supply of various services to population which should ensure new employment opportunities and quality of life increase. The analysis of Romanian agricultural compatibility with EU developed countries offers useful information in order to highlight disparities and establish the convergence directions of the rural areas in agreement to Common Agricultural Policy principles.

Romania has an important agricultural potential (Table 4). It holds 7.8% of the agricultural

area used by EU-27, being close from this point of view to German agriculture (9.8%) and Polish (8.5%). The population's employment in Romania agriculture amounts to 21.2% of the EU-27 farm labour force. Romania has four times more labour force employed in agriculture than Germany.

Romania's agriculture particularizes through a great number of small dimensioned agricultural exploitations practicing a subsistent agriculture, in which the agricultural production is firstly destined to own consumption. Both the farmlands as well as the labour force from the subsistent farms are exploited under their economic potential, which diminish the farming performance and make Romania a net importer of farm products.

**Table 3.** Structure of the economy (% GVA by branch), 2009 (EC, 2012)

Country	Rural			Intermediate			Urban		
	P	S	T	P	S	T	P	S	T
Germany	2.0	30.6	67.4	1.1	28.5	70.4	0.3	23.8	75.9
France	3.3	23.9	72.8	1.9	22.3	75.8	0.4	15.0	84.6
Hungary	6.5	37.5	55.9	4.3	35.2	60.5	0.2	18.5	81.3
Poland	8.2	35.3	56.6	3.2	34.8	62.0	0.8	28.7	70.5
Romania	12.3	37.4	50.4	7.3	42.7	50.0	0.3	32.6	67.1
EU-27	3.9	29.1	67.0	2.1	28.0	70.0	0.5	20.7	78.8

P – primary sector, S – secondary sector, T – tertiary sector

**Table 4.** Number of holdings, used agricultural area and farm labour force, 2010 (Eurostat, 2011)

Country	Number of holdings		Utilised agricultural area (UAA)		Average area per holding, hectares	Farm labour force	
	In thousands	% of EU 27	In 1000 hectares	% of EU 27		1000 AWU	% of EU 27
EU27	12 053.8	100.0	170 027.3	100.0	14.1	10375	100.0
Germany	299.1	2.5	16 704.0	9.8	55.8	546	5.3
France	514.8	4.3	27 090.0	15.9	52.6	780	7.5
Hungary	577.0	4.8	4 610.9	2.7	8.0	423	4.0
Poland	1 505.7	12.5	14 384.1	8.5	9.6	1897	18.2
Romania	3 856.3	32.0	13 298.2	7.8	3.4	2205	21.2

AWU – Annual Work Unit

**Table 5.** Disparities in agriculture (euro/ha), 2010

Indicators	Germany	France	Hungary	Poland	Romania	EU-27
Agricultural output	2749.82	2432.95	1299.98	1365.12	1059.72	2052.1
Gross value added at basic prices	835.07	1027.7	429.29	539.36	489.34	856.33
Fertilizers and soil improvers	126.14	125.68	77.2	74.1	45.08	88.72
Plant protection products, herbicides, insecticides and pesticides	89.92	104.97	67.3	49.94	19.02	59.44
Fixed capital consumption	483.84	387.79	197.22	103	174.94	338.93
Energy, lubricants	215.28	123.61	142.63	209.23	110.22	151.88
Interest paid	57.41	38.76	14.72	22.96	0.98	48.02
Agricultural service	109.32	130.34	73.9	33.3	9.95	88.31
Gross fixed capital formation	433.49	339.77	152.72	72.26	83.89	310.02
Labour productivity in agriculture*	12650	25907	29218	4872	3473	3297
Crop products, kg/ha (year 2011)	64.49	69.58	51.58	34.3	39.7	64.49
Milk yield - kg/cow	7190	6513	6949	5303	3883	7190
Share of total organic crop area out of total UAA(%)	5.9	2.9	2.4	3.3	1.3	5.1

\*GVA (at basic price - in euro) / AWU, average 2008 to 2010 ("2009"); Source: Own calculations on data from Eurostat Database (aact\_eaa)

The agriculture of subsistence, practised on a large scale in Romania leads to low performances in

comparison to analyzed countries. Given the modest incomes, the capital accumulation is practically

impossible and in consequence, the investments in farm machinery and land improvements are difficult to accomplish. The agricultural technologies practised are often unsophisticated. The use of fertilizers, soil improvers, plant protection products, herbicides, insecticides and pesticides is low in Romanian agriculture compared to the EU countries, which explains its low yields registered (Burja, 2011). The banking system is not confident in the agriculture of subsistence and exercises restraint in credit granting. No grants in agriculture are attributed to crop production on small dimensioned areas.

According to the information in Table 5 in EU-27 there are profound disparities in agriculture between developed countries and countries that have recently accessed, although these have a significant agricultural potential. Low performances in their agriculture and especially in the Romanian one are exhibited by the Agricultural output and Gross value added as well as yields to Crop products and Milk.

The value of the indicator Agricultural output is frequently used in the international comparisons for evaluating the agricultural performance. Agricultural output/ha in Romania is approximately 50% of the EU-27 average. According to the Regulation on the Economic Accounts for Agriculture, the value added is the balancing item of the production account. It is calculated as the difference between the value of output and the value of intermediate consumption. GVA is considered a key item in measuring the productivity, and the registered value in the Romanian agriculture is of 57% compared to EU-27. Romania has favourable conditions for the agricultural crop and livestock production. With all these, crop products (kg/ha) in Romania represent 61% of the EU-27 average and milk yield (kg/cow) 54%.

Although Polish and Hungarian agricultural performances are inferior to the average registered in EU-27, they are generally better than Romanian agriculture. Agriculture practised in Germany and France has in general superior performances to the European average. Disparities of agricultural performances between Romania and EU-27 are also determined by the diminished use of some factors, which might contribute to production growth. In Romanian agriculture, the use of fertilizers and soil improvers is of 50% in comparison to the EU-27 average, and the consumption of plant protection products, herbicides, insecticides and pesticides represents only 31%. These practices could be an opportunity for the development of organic agriculture. The mechanization of agriculture is also deficient in Romania. This aspect is reflected by the fixed capital consumption (51% in Romania in comparison to EU-27) as well as the low energy and lubricants consumption.

Agricultural services constitute an important component of intermediary consumption in agriculture and contribute to the growth of agricultural performances. The services suppose a certain specialization of labour force and need

specific investments. That is why farmers resort to companies specialized in performing farm services. In Romania, the agricultural purchased services are low in comparison with the other analyzed countries, which has a result in the yield of production and the economic efficiency performed in agriculture.

The agricultural credit has an important role in the adequate financing of agriculture. This is necessary both for production financing and investments as well as for attracting structural agricultural funds. In Romania, the credits granted to agriculture by the banking system are much below the average level in EU-27. This aspect is shown by the level of interest paid for capital loan, which are 50 times smaller than the EU-27 average, even if the cost of the loaned capital is higher than in the other European countries. The low level of credits granted to agriculture in Romania is owed to the risk or to its perception. Commercial banks request refund guarantees and increase the level of interest for financing risky activities. Farmers do not have these guarantees or they do not want to take them.

Reduced financing possibilities of agriculture in Romania through self-financing or capital loan produce major difficulties in financing investments for the purchase of land, buildings, machines, vehicles or other equipment. Gross fixed capital formation (GFCF) in Romanian agriculture is higher than in Poland but much more lower than in the countries with developed agriculture in EU. Agriculture cannot be competitive without an appropriate grant from the value added for financing GFCF.

Organic agriculture development constitutes a priority direction for the Common Agricultural Policy and at the same time a chance for sustainable development of Romanian agriculture. The implementation of organic agricultural practices supposes a conversion period, which in the case of Romania may last for at least two years due to reduced fertilizers and pesticides consumption during the last 15 years. With all these, the share of total organic crop area out of total used agricultural area is low in Romania in comparison to the analyzed countries due to a low domestic demand for organic products and insufficient knowledge of the benefits and practices of organic agriculture.

Agriculture in Romania greatly depends on weather conditions. Their influence explains variations registered in the cereal yield in the period 2001-2011. We observe from Fig. 1 the great yield differences between the analyzed countries, which maintained along the analyzed interval. Most data on the base of which we made our analysis for agriculture referred to the year 2010, which might be considered a common year without special climate influences and that is why we consider our appreciations as being realistic.

The development of agriculture in Romania supposes a set of measures, which should remove the factors generating the actual disparities towards EU. Based on the analysis results and agriculture

development tendencies identified in other countries, we consider as necessary: reducing the fragmentation of farmland property and the percentage of population employed in agriculture, farm endowment with machinery and the application of modern agricultural technologies, adequate financing by bank credits and grants, the growth of services destined to agriculture, improvement of farmers' professional education and development of the agricultural advisory system, the promotion of organic agriculture.

### *3.2. Social economic disparities*

Social economic characteristics have a major influence over the quality of life within the rural areas. Ensuring some services specific to modern civilization also conditions the quality of life. The demographic aspects of population within the rural areas ensure the continuity element of rural settlements. To these aspects, we may add a subjective component which cannot be quantified in models of economic development, connected to the profound attachment of an important part of population to traditional values of the rural areas, the specific culture and moral values (Borza, 2011).

A descriptive analysis based on social economic indicators completes the image offered by the characteristics of rural economy. This allows us to evaluate the quality of life within the rural areas in Romania, comparatively to the other EU states. Identification of problems affecting the quality of life negatively and of noticed positive elements offers the necessary information to found sustainable development programs of the rural areas.

The data analysis in Table 6 highlights important social economic disparities between Romania and the analyzed states about a part of indicators characterizing the quality of life within the rural areas. In addition, disparities between the urban and rural areas, both in Romania and the EU may be noticed. Population employment reflects the level of development and the structure of economic activities in the area. We notice the fact that employment development of the non-agricultural sector within the rural areas in Romania is much lower than in the EU developed countries. The low variety level of economic activities within the Romanian rural areas shows the population's income dependence on the agriculture of subsistence, and a low degree of attraction of the rural areas because of lack of activities which might generate increased incomes.

Rural tourism and agro tourism are an alternative of diversification of the economic activities within the rural areas in Romania. The potential of this sector is given by unique landscapes, large semi-natural areas and native hospitality, specific customs and traditions. To these, we may add entropic elements with patrimonial values such as: archaeological sites, historical centres, churches, memorial houses, museums, libraries, community centres, buildings with an architectural value (Burja

et al., 2008). The infrastructure specific to tourism is however, insufficiently developed. The percentage of beds in tourist accommodation facilities is lower in the predominant rural regions in Romania in comparison to EU 27.

The tourism development is affected by the road condition in rural areas. Only half of the communes in Romania have direct access to the road network and their state is far from the European standards. Only 17% from county and communal roads are modern and 31.2 % are with light asphalt pavement (RSY, 2012). The internet connection is an important service for facilitating the access to information on the market. In Romania, the internet access of population living in the rural areas is still rather low. This situation owes mainly to low incomes of population in the rural areas (only 35% households have computers). In addition, the access to other services, on which comfort and quality of life depend, are deficient within the Romania rural areas. According to results of the population and habitat census in 2011, only 37.2% of the accommodations in the rural areas have water supply, 31% have a bathroom and 72.9% have a kitchen inside the accommodation.

An important aspect for the competitive growth of labour force in the rural areas and its adaptation to modern economy requests is given by education and professional training. In Romania, the percentage of adults with medium or high educational attainment from thinly populated areas is lower than in the analyzed countries. The CAP encourages life-long learning but the number of adults participating in education and training is low in Romania.

Although the practice of commercial agriculture implies adequate technical, economic and judicial knowledge, the number of graduates from agricultural high schools and veterinary high schools dropped by 19% within the period 2006-2011 (RSY, 2012). Early school leaving (ESL) is an important problem faced by education in the rural areas. This aspect affects quality and competitiveness of the human capital; it generates poverty and social exclusion. In Romania, the percentage of the population aged 18-24 with at most lower secondary education and not in further education or training is 17.5% in 2011 in comparison to the EU-27 average, which is of 13.5% (Eurostat- Labour Force Survey). The ESL level is higher in the rural area than that in the urban area because of poverty and family problems.

Fighting poverty and social exclusion is a priority objective established by the EU 2020 Strategy for smart, sustainable and inclusive growth (EC, 2010a). The percentage of the population with a poverty risk or social exclusion in rural areas is higher in all EU countries than in the urban areas. In Romania, the poverty risk or social exclusion in rural areas is two times higher than in Germany and France. People in this situation remain many times outside the labour market, have insufficient incomes

and have difficult access to basic services — healthcare, childcare, education, housing. Therefore the national target assumed by the Romanian Government through the National Reform Programme is cutting down with 15% on the number of people living in poverty (NRP, 2010). According to OECD (2012) life expectancy measures the average life span of people based on a given set of age-specific death rates. This indicator is representative for the state of health and the quality of life in a country. The level of the indicator depends on working and living conditions, the access to basic healthcare, life style, education, incomes, environmental quality and other factors influencing the standard of living. Within the rural area in Romania, life expectancy at birth is lower with seven years than the EU-27 average. There are major differences between life expectancy at birth for men (68.88 year) and women (76.81year) (RSY, 2012).

The demographic aspects characterize the quality of life in the rural areas and at the same time, they are main factors influencing economic growth, social development and the quality of life. The aging phenomenon affects the entire population in Europe. In Romania, the rural population, aged over 65 years old represents 18% of the total rural population (RSY, 2012). This aspect is the result of higher levels of out-migration especially of youth, to urban areas or to other countries. Except France, Crude Net Migration Rate is negative in the predominant rural regions, which can cause potential problems for the social security system sustainability (EC, 2008).

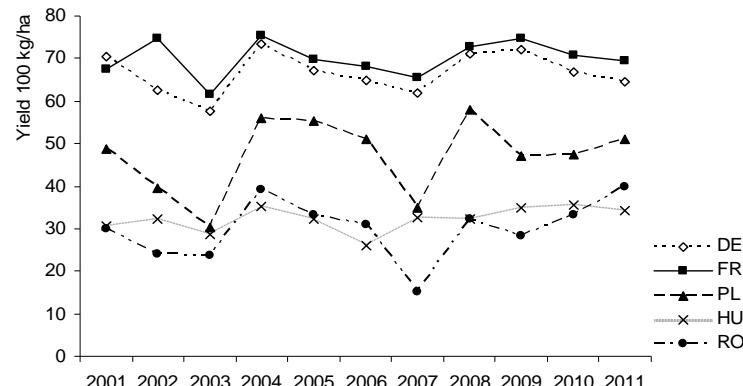
### 3.3. Environment disparities

Environmental protection is an essential component of sustainable development and therefore it is a priority objective for all EC policies. The quality of life and the future of the next generations may depend on this aspect. An analysis based on the information in Table 7 reveals some characteristics concerning the environmental quality from the Romanian rural areas and the analyzed countries.

The Romanian rural area disposes of “natural resources that are generally, in a good preserving status, having a high level of biodiversity associated to a diversity of habitats, ecosystems, forests and valuable agricultural landscapes” (NRDP, 2010). Challenges related to agricultural development and other economic branches may seriously affect the quality of environment through climatic changes, damage the natural equilibrium, deprecate and deplete resources.

High Nature Value (HNV) in farmland areas has a special importance for the preservation and enhancement of biodiversity and traditional rural landscapes. The concept of HNV refers to the causality between certain types of farming activity and “natural treasures” characterized by the presence of environmentally valuable habitats and species (Baldock et al., 1993). Restoring and preserving biodiversity, including HNV, constitutes one of the priority objectives of the CAP in the period 2014-2020 for rural development (EC, 2011b). Romania has a high level of biodiversity characterized by the existence of a great number of species, accommodations and diverse ecosystems on large areas. The agricultural activities growing intensity or their abandoning are threats, which can menace the preservation of biodiversity.

According to information from the CIA's World Factbook (2011), the area of land covered in woods in Romania (26.72%) is smaller than the EU average (35.0 %) but it is one of the few European countries that still have virgin forests. Forests may constitute a source of income for inhabitants in the rural areas by their exploitation but they fulfil other functions as well: recreation, biodiversity conservation, mitigating climate changes, flood protection, providing non-timber forest products and hunting. Therefore the increasing forest area constitutes an important objective in the European policies of sustainable rural development. In Romania due to land restitution to private individuals, illegal logging intensified, and thus the forest area reduced with 0.03% between the years 2005-2010.



**Fig. 1.** Cereal yield, 2001-2011  
Source: Eurostat Database, (apro\_cpp)

**Table 6.** Social economic disparities, year 2011 (EC, 2012)

Indicators	Area	DE	FR	HU	PL	RO	EU-27
Employment development of the non-agricultural sector, 2009	PR	95.4	95.4	95.4	74.7	61.0	86.7
	IN	97.4	97.4	97.4	88.9	70.4	93.9
	PU	99.1	99.1	99.1	96.6	98.4	98.8
Beds in tourist accommodations, % of total	PR	33.0	29.6	47.2	60.2	24.8	26.5
	IN	33.9	58.3	38.6	21.8	75.2	44.7
	PU	33.1	12.0	14.2	18.1	n.a.	28.8
Households with internet access, % of households**	TPA	79	69	57	62	32	65
	IDA	84	74	65	68	63	74
	DPA	84	80	75	71	69	77
Educational attainment , % of adults with medium or high educational attainment	TPA	89.7	69.3	74.4	83.9	63.5	71.0
	IDA	87.5	71.7	82.9	90.3	83.3	71.4
	DPA	84.2	72.4	90.6	94.0	91.0	74.5
Life –long learning, % of adults participating in education and training	PR	5.7	4.2	1.9	3.0	0.9	6.8
	IN	6.4	5.2	2.3	3.9	0.9	8.3
	PU	9.3	6.3	4.2	6.4	2.5	10.3
People at risk of poverty or social exclusion , % of total population*	TPA	21.5	19.4	35.7	32.7	47.4	29.3 (s)
	IDA	18	15.6	29.1	26.6	39.5	21.0 (s)
	DPA	20.8	22.2	25.1	21.2	28.4	23.3 (s)
Life expectancy at birth		80.8	81.9 year 2010	75.1	76.9	72.63 (rural)	79.7 year 2009
Net migration, crude rate per 1000, 2010	PR	-1.3	4.1	-2.1	-1.7	-0.5	0.1
	IN	1.0	1.1	1.2	0.9	-0.1	1.9
	PU	3.4	-1.5	10.2	1.0	2.5	2.7

PU - predominantly urban, IN – intermediate, PR - predominantly rural, TPA- thinly populated area, IDA- Intermediate density area, DPA- Densely populated area

**Table 7.** Environment disparities (EC, 2012)

Indicator	DE	FR	HU	PL	RO	EU-27
Agricultural land of High Nature Value Farmland % of agricultural land	15.1	22.8	28.6	22.7	36.3	31.5
Development of forest area % Average annual change of forest and other wooded land, year 2005-2010	0.0	0.16	0.56	0.26	-0.03	0.13
Water quality: % territory designated as NVZ*	n.a.	39.2	56.2	4.5	57.8	45.4
Areas at risk of soil erosion: Share of estimated agricultural area affected by moderate to sever water erosion (>11 t/ha/yr)	2.7	5.1	1.0	1.1	5.6	6.0
Climate change: GHG emissions from agriculture Share of agriculture in emissions of greenhouse gases	7.2	18.0	12.2	8.6	13.8	9.8

\*NVZ- Nitrate Vulnerable Zones

The quality of water is a precondition for the quality of life in the rural area. Human, animal and plant health may depend on it, this being at the same time a vital resource for economic activities. Nitrates pollution is the main problem affecting the quality of water and it represents a major risk for human health (Majumdar and Gupta, 2000). Agricultural activities may be the cause of this pollution in the rural areas by the inappropriate farmyard manure deposition and the excessive use of fertilizers.

In Romania, the weight of Nitrate Vulnerable Zones is higher than the European average. The main causes are the poor infrastructure of the sewage and water clearance, but also the tendency to intensify the agricultural activities. Implementation of Nitrates Directive (EC, 1991) in Romania is difficult due to the rural population's limited financial resources, to their insufficient education, historic pollution and to the slow self-purifying process of underground waters (Mihăiescu et al., 2010).

Soil erosion by water is one of the most important cases of soil decay in Romania. This problem currently affects 6.3 million ha (NRDP 2007-2013) and has negative consequences over natural nutrients necessary to local farm crops; it destroys vegetation and landscape architecture and affects the quality of waters. The main factors contributing to soil erosion are the abusive forest cuts, excessive grazing and the inappropriate agro-technical works.

The global climate changes affect the environment, economic activities and implicitly the quality of life. The causes of climate changes are very complex, but it is recognized that the growth of greenhouse gases (GHG) emissions is mainly responsible for this during the last decades. Agriculture is profoundly affected by climate changes and is at the same time responsible for them through the greenhouse gas emissions: methane ( $\text{CH}_4$ ), nitrous oxide emissions ( $\text{N}_2\text{O}$ ) and carbon dioxide ( $\text{CO}_2$ ). Romania has low GHG emissions but

we observe that the share of emissions in agriculture (13.8%) is higher than the European average (9.85). Agriculture and forestry may have important contributions to the fight against climatic changes by increasing the areas covered in woods in order to reduce the CO<sub>2</sub> in the atmosphere and the use of biomass as a renewable energy source.

#### 4. Conclusions

Six years after accession, the real convergence process between Romania and EU is far from final. A thorough analysis of rural economy within the Romanian rural areas evidences the fact that rural economy is weakly diversified and still dependent on farm activities.

Agriculture in Romania has the characteristics of subsistence agriculture, being profoundly affected by the fragmentation of farmland property, which leads to a difficult capitalization process and adaptation to the requests of a competitive market. Old traditions based on ecological technologies and the productive potential of the soil constitutes an advantage for implementing the practices of organic agriculture in Romania.

The activities in the tertiary sector of economy, although they have a development potential, which might contribute to the quality of life and rural attractiveness enhancement in Romania, are still weakly developed. Rural tourism and agrotourism represent activities generating alternative incomes in the rural areas, which might be developed given the natural, ethnographic potential, folk traditions, farming, and special architecture of Romanian villages as well as the inhabitants' great hospitality. This opportunity is not fully exploited in Romania because of deficient infrastructure, inappropriate organization and advertising.

Transport and building infrastructure, as well as public infrastructure ensuring current water, sewerage and gas utilities, are still weakly developed within the rural areas, with all efforts especially made after opportunities of pre-accession and structural European fund granting have appeared in Romania.

Human capital is especially important to rural development, but in Romania the education level and the access to information of rural population are rather low, which constitutes a restrictive factor for developing economic activities in the rural areas.

Romania disposes of various and valuable capitals; however, inappropriate economic practices, human's aggressive intervention, insufficient education as well as insufficient financial resources to protect the environment lead to environmental decay and its development on non-sustainable principles.

The above mentioned realities demonstrate the existence of some important disparities about the quality of life within the rural areas in Romania and EU developed countries. That is why, a new approach of the policy imposes itself, destined to sustainable development of the Romanian rural areas,

which should value their strength and eliminate their weakness, exploit opportunities and remove threats. It implies achieving a balance between development and sustainability based on a strong and diversified rural economy, multifunctional agriculture, development of services, modern infrastructure, environmental and landscape protection, an acceptable rural living standard. The elaboration and implementation of these policies must be founded on the principle of subsidiarity according to which the decision, the effort and the responsibility belong mainly to Romania but at the same time, the chances offered by the EU integration need to be exploited.

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