

Improving the quality of life in rural Romania through sustainable agriculture

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Abstract: *Agriculture is still a major sector with important social impact, since in developing countries most of the population works in agriculture. Quality of life in rural areas in Romania has a low score compared to other European countries. Although Romania is rich in natural resources in agricultural sector, the poor evolution of quality of life index is determined by the lack of implementation of some pillars like innovation, education, funds management and poor infrastructure.*

Key-words: *sustainable agriculture, quality of life, rural areas*

1. Introduction

Quality of life should not be mixed with the concept of standard of living, which is based primarily on income (Dolan, Peasgood and White, 2008). The quality of life is a broader concept and the standard indicators of the quality of life include not only wealth and employment. (Eurostat, 2015)

There is a direct relationship between quality of life and environment (Streimikiene, 2014). Environmental quality is a key dimension of people's well-being, as quality of life is strongly affected by a healthy physical environment (Holman and Coan, 2008).

Europe's rural areas according to the OECD urban-rural typology, account for 91% of EU territory. Furthermore, 24% of EU's population lives in predominantly rural areas and 35% in significantly rural regions. The greatest shares of rural population in Europe are in Bulgaria, Romania, Lithuania and Norway.

Semi-subsistence farms are definitely predominant in Romania. Romania agricultural productivity is often low, because it is influenced by unfavorable investment environment, limited agricultural land market, poor technical and environmental status of water management systems (European Commission, 2008).

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The European policy regarding agriculture and rural development integrated many sustainability goals and its implementation is expected to have a meaningful contribution to the development of agriculture by respecting social and environmental restraints (Rădulescu and Ioan, 2015).

Sustainable agriculture integrates three main goals: environmental health, economic profitability and social and economic equity (UCDAVIS, 2016). “A sustainable agriculture must be economically viable, socially responsible and ecologically sound. The economic, social and ecological are interrelated, and all are essential to sustainability” (Western SARE, 2016).

2. Quality of Life in Europe

Quality of Life includes the full range of factors that influence what people value in living, beyond the purely material aspects. Quality of life being a multidimensional concept, the set of indicators was developed and organised along 8+1 dimensions which constituted the ‘quality of life’ framework. Eight of these dimensions relate to people’s capabilities to pursue their self-defined well-being, according to their own values and priorities: natural and living environment, governance and basic rights, economic and physical safety, social relations and leisure, material living conditions, productive or main activity, health, education. The last dimension ‘overall experience of life’ refers to the personal perception of quality of life - i.e. life satisfaction, affects, meaning of life (Eurostat, 2015).

Quality of Life Index (NUMBEO, 2016) is an estimation of overall quality of life by using empirical formula which takes into account purchasing power index (higher is better), pollution index (lower is better), house price to income ratio (lower is better), cost of living index (lower is better), safety index (higher is better), health care index (higher is better), traffic commute time index (lower is better) and climate index (higher is better).

Current formula, written in Java programming language, is presented below:

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index.main = Math.max (0, 100 + purchasingPowerInclRentIndex / 2.5 -
(housePriceToIncomeRatio * 1.0) - costOfLivingIndex / 5 + safetyIndex / 2.0 +
healthIndex / 2.5 - trafficTimeIndex / 2.0 - pollutionIndex * 2.0 / 3.0 + climateIndex /
2.0);
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Figure 1 present a comparison between Cost of Living Index and Quality of Life Index for 12 European countries in the first quarter of 2016. The analysis includes Romania and its neighbours: Hungary and Bulgaria. It can be observed that Romania has the lowest cost of living Index. Its Quality of Life index is higher than Hungary and Bulgaria.

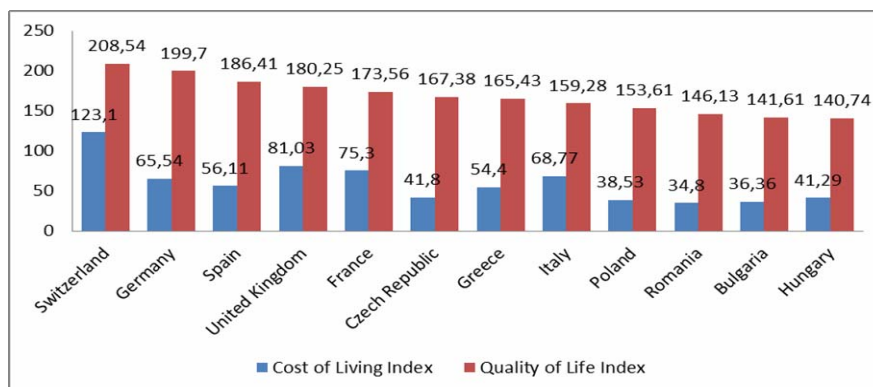


Figure 1. Comparison between indexes in 12 European countries for 2016

The Quality of Life Index for Romania increased more than 3 times in 2015 faced to 2012.

3. Quality of life in Romania rural areas

In the context of Rural Development Policy, Quality of Life consists of several aspects, e.g. economic welfare through diversification activities, provision of basic living conditions, a social network of relationships and associations as well as the cultural environment that makes life enjoyable and satisfying. Quality of Life in rural areas is a multi-dimensional concept embracing social, environmental and economic dimension linked by governance. (European Communities, 2010)

Romania covers an area of 238 000 km², of which 87% is rural. Of the total area, agricultural land covers 57%. From the total population, 45% lives in rural areas. The weight of the rural area can be characterized by the share of rural territories and by the share of population resident in rural areas. Romania's rural population resides in 12,751 villages, which are organized into 2,688 administrative units (called communes). The population density in rural areas is approximately 48 inhabitants/square km, well below the overall country average of 90.9 inhabitants/square km (European Communities, 2008).

Approximately one third of all farms in the EU are found in Romania, with some 3.9 million farm holdings. Farming structures are highly polarized - large and medium sized farms, account for around 7% of holdings, but manage some 70% of agricultural area, and have a clear competitive potential. On the other hand 93% of the holdings are less than 5 ha - these are typically subsistence and semi-subsistence holdings, which manage the other 30% of the agricultural area. The average farm size is considerably smaller than the EU average (3.4 ha in RO compared to an EU average of 14.4 ha). Agriculture still provides some 30% of total

employment in Romania, the largest share in the EU, six times higher than the EU average. The figure below includes some weaknesses and threats for rural Romania.

WEAKNESSES	THREATS
<ul style="list-style-type: none"> ▪ Migration of young people from rural areas; ▪ Low levels of the education and of the further training in agriculture and forestry ▪ Underdeveloped entrepreneurial culture, there is a reduced number of rural SMEs ▪ High percentage of elderly farmers; ▪ The large number of small farms, the excessive fragmentation of agricultural and forestry lands; ▪ Low level of association between the farmers; ▪ Low standard of living and high poverty rate. 	<ul style="list-style-type: none"> ▪ Possible depopulation of villages due to the youth migration ▪ Trends of intensification in agriculture, especially in the areas with agricultural potential, ▪ External producers competition; ▪ Decrease of the consumers purchasing power; ▪ The alteration and the loss of the heritage and rural traditions.

Source: Adaptation after Cristina et al, 2015.

Table 1. Factors affecting Quality of Life in Rural Romania

In Romania, the relative poverty risk in rural areas is more than double as compared to the one in urban areas (42% and 18%, respectively). In Romania, besides the poor connections to water and sewerage systems, a big issue is the poor quality of water, which significantly diminishes the quality of life and activates the risk of diseases.

▪ Directions for increasing the quality of life in rural Romania

Romania, as an EU country, has set itself a strategic objective to achieve “sustainable agriculture”, which aims to capture an effective balance between commercial agriculture and environmental conservation. The key challenges for Romania’s agricultural sector are interrelated and include: providing high quality products and services; ensuring food safety and animal welfare; meeting consumer preferences; making positive environmental contributions; and maintaining quality jobs and international competitiveness throughout the agricultural industry’s supply chain. More than 30% of farmland in Romania is under **high nature value** systems of farming. HNV farmland results from a combination of land use and farming system and it is a key indicator for the impact assessment of policy interventions with respect to the preservation and enhancement of biodiversity, habitats and ecosystems dependent on agriculture and of traditional rural landscapes (European Commission, 2014).

The Common Agricultural Policy for the European Union includes 16 impact indicators (Europa.eu, 2015) which could be grouped and linked to the dimensions of Quality of life in rural areas, as in the following table.

SOCIAL DIMENSION	ECONOMIC DIMENSION	ENVIRONMENTAL DIMENSION
Agricultural entrepreneurial income	Emissions from agriculture	Rural employment rate
Agricultural factor income	Farmland bird index	Degree of rural poverty
Total factor productivity in agriculture	High nature value (HNV) farming	Rural GDP per capita
EU commodity price variability	Water abstraction in agriculture	
Consumer price evolution of food products	Water quality	
Agricultural trade balance	Soil organic matter in arable land	
	Soil erosion by water	

Table 2. Impact indicators classification

The **Rural Development Programme (RDP)** for Romania was formally adopted in 2015 outlining Romania's priorities for using nearly € 9.5 billion of public money for the period 2014- 2020. The RDP for Romania focuses mainly on 3 priority areas: promoting competitiveness and restructuring in the agricultural sector; environmental protection and climate change; and stimulating economic development, job creation and a better quality of life in Romanian villages, where the situation is frequently well below both EU and average national levels.

4. Conclusions

The key to sustainable agriculture is finding the right balance between the need for food production and the preservation of environmental ecosystems. Sustainable agriculture also promotes economic stability for farms and helps farmers to better their quality of life.

Developing a sustainable agriculture in Romania leads to improving the quality of life, being beneficial for farmers and environment. Sustainable agriculture contributes to environmental conservation, public health safety, pollution prevention, farming cost reduction. The promotion of sustainable agriculture in developing countries like Romania could have important direct and indirect implications for economic development.

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