

ROMANIAN RURAL AREAS DIVERSITY – TYPOLOGIES OF SUSTAINABILITY

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Abstract

Relatively new concept, sustainable development as economic development is providing the current consumer satisfaction without compromising or prejudicing those of future generations. The main objective of this paper is to identify similar developing structures in rural communities, using significant indicators of sustainability. Methodological approach included four steps: i) defining the rural space ii) selection of indicators of sustainability, what are specific for economic, social and environmental fingerprint; iii) integration and aggregation of indicators; iv) the grouping of communes - features six categories relatively homogeneous. This approach to classification of rural communities can be a model-based approach that could be a start in developing effective strategies for rural development.

Keywords: rural development, rural space, sustainable typology

INTRODUCTION

In recent years, interest in the concept of local development is growing due to globalization of economy, multiplying the phenomenon of relocation of businesses, emerging channels of information, etc.. Most developed countries have expanded their concerns to achieve a balanced economic and social development in the territorial level. This tendency has imposed, primarily due to the important role that local economic development has in the efficient use of existing resources.

STAGE OF THE KNOWLEDGE

The concept of sustainable development means all forms and methods of socio-economic development, whose background is primarily to ensure a balance between these systems and socio-economic elements of natural capital. Relatively new

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concept, sustainable development is a form of economic development that ensures the current consumer's satisfaction without compromising or prejudicing those of future generations. In the seventies, a number of researchers and politicians have pointed out that the traditional model of economic growth and development are facing serious problems, economic, environmental and social. The debate that followed these signals have resulted in the emergence of the concept of sustainable development, a concept enshrined in the report "Our Common Future" prepared by the Independent World Commission on Environment and Development report adopted by the Conference in Rio de Janeiro (1992).

The concept involves the analysis of society behavior in relation to existing resources and corrects this report in order to avoid jeopardizing the existence of future generations. Applying the concept of sustainable development means not only a realignment of economic and political forces at national and international level, but also a fundamental change in human relations with its natural environment.

MATERIAL AND METHODS

Methodological approach taken included the following steps:

1. Defining rural areas. The paper was considered as a rural area the administrative territory of the communes because this is the base from which the statistical information are collected. Use of this level allows a deeper identification of disparities in economic and social development and therefore implicitly favors obtaining results with a higher degree of fidelity.

2. Selecting indicators of sustainability for a specific economic, social and environmental footprint at local level. Considering the indicators a tool for describing and assessing the development of rural communities, in their choice assumed multidimensional nature of rural development and its local specificity. In this context, the best known batteries of indicators were analyzed, both at the international level (Eurostat, 2008 OECD, 2007 EU, 2006) and national level (Florian et al., 1998 and Rusu, 2005). These studies were used as a starting point for selecting relevant indicators for the approach of this chapter. Existing contributions in the literature were consulted as a guide for selecting indicators. The aim was twofold: to establish a list of indicators and their grouping on the three pillars of sustainability: environmental, economic and social. Thus, identified a number of 36 indicators grouped into six dimensions (demographic dimension, demo-economic dimension, agricultural dimension, industrial dimension, tourism, infrastructure, social dimension and environmental dimension).

3. Integration and aggregation of indicators. The volume of data has led to some difficulty in the capture specific features of rural communities in terms of sustainability. In order to identify common elements of the set of variables to be represented by a common factor, factor analysis was used. Using exploratory factor analysis the number of factors and how variables contribute to the total variance of the factor they represent was determined.

4. Grouping communes. Communes under study were grouped by hierarchical cluster analysis (Euclidean distance, the farthest neighbor method). The objective of the cluster analysis was to classify villages, starting from a range of known attributes (the elements of each class to be as similar to each other). Thus, the database units (communes) were grouped into a number of six clusters. This analysis facilitated the characterization of rural communities, in terms of the three pillars of sustainability.

RESULTS AND DISCUSSIONS

Cluster analysis led to the identification of six categories of rural communities with relatively homogeneous characteristics (Figure 1).

Cluster 1 contains the lowest common number (4). This category is characterized by a rural economy dominated by agriculture, with a weak industrial sector development. The share of arable land is reduced resulting in a limited diversity of cultivated plant species. Livestock sector is also weak. Even tourist potential is important the tourist activity is weak. Road and rail accessibility is good and very good: quick access to European road and rail system. Employment is relatively low. In terms of demographic dimension, the situation is following: small size of villages, average population density and average net migration. In terms of the social dimension, the characteristics of this category are given by a low to medium development degree of health and education services and a medium to high degree of accessibility to telecommunications networks and media. In terms of the environment this cluster is characterized by high values of soil and forests pollution.

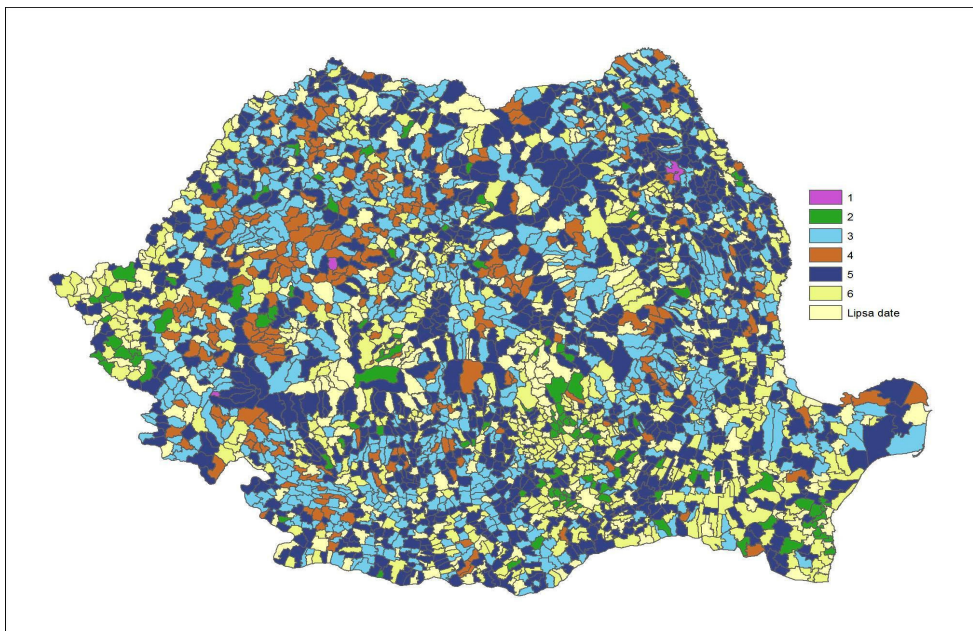
A total of 111 communes are grouped in **cluster 2**. They are located in compact areas, particularly in the counties of Constanta, Prahova, Dambovita, Ilfov and Timis. Agricultural economy is medium diversified. Turistic potential is medium to high and accommodation capacity is average. Agriculture and industry are developed. There is a significant share of employment and also a high of the employment in non-agricultural sectors of economic activity. Technical infrastructure is well developed: in terms of accessibility this fall on a common medium to upper landing. The share of agricultural land is medium to large and the share of arable land is low. Communes falling within this category have good conditions for growing fruit trees and grape-vine. Livestock sector is poorly developed. In terms of demographic dimension, these communes are characterized by high population density with low aging index and an average net migration. In terms of the social dimension, this cluster shows a significant diversity. Most of these communities face problems of medium environment pollution. Forest per capita charge is reduced, because of either high population density or small areas of forests.

Cluster 3 includes 790 communes and is characterized by a relatively uniform localization throughout Romania. Technical infrastructure is medium developed there is good accessibility, both on road and rail as well. There is a significant share of the working population and a medium share of employment in non-agricultural sectors. The agricultural sector is likely to develop a wide range of crops, as the share of arable

land is generally high. As regards diversification of economic activities, there is a real tourism development potential and medium to high tourist accommodation capacity. Development of industrial sector registered low to medium values. The social dimension is characterized by a medium level of development in terms of health and education system and high in terms of access to information. In terms of environmental dimension for this cluster is specific relatively high degree of pollution: both land and forests.

Located, especially in Transylvania, a total of 262 communes were classified in **cluster 4**. In terms of economic dimension, this cluster is characterized by high agricultural potential with a large share of agricultural land and a medium to high livestock sector development. Technical infrastructure has a medium to higher development degree. Employment of the population is medium to high and the employment in non-agricultural is low to medium. In terms of economic dimension, a relatively balanced proportion of agricultural land and forests characterizes cluster 4. Social pillar, in terms of sustainability, presents a good case: the rate of net migration recorded averages value as indicators that capture the social services: education and health. Environmental dimension records a wide range of values.

Fig 1. Typologies of sustainability in rural space



(Source: own data processing based on Localities Data Base, NIS, 2008)

A number of joint 991 are grouped in **cluster 5**. They are located in areas scattered throughout Romania. Agricultural economy is medium diversified. Touristic potential is medium to high and accommodation capacity is medium. Industrial sector is poorly to medium developed and the agricultural sector is medium to high

developed. There is a significant share of employment and a relatively low share of employment in sectors of nonagricultural economic activity. Technical infrastructure, both road and rail is medium developed. In terms of accessibility of these comunas are situated on medium to higher level. Livestock sector is medium developed. In terms of demographic dimension this cluster is characterized by high population density with low aging index and an average net migration. In terms of the social dimension this group shows a significant diversity. Most of these communities face medium problems of environmental pollution.

Cluster 6 contains 528 comunas and is characterized by a relatively uniform localization throughout Romania. Technical infrastructure is medium developed: there is a good accessibility on road and rail. Significant share of the working population is employed and the share of employment in non-agricultural sectors is average. The agricultural sector is expected to develop a wide range of crops and the share of arable land is high. As regards diversification of economic activities it is based on tourism development: turistic potential is medium to high and tourist accommodation capacity is medium. Development of industrial sector registered low to medium values. The social dimension is characterized by a medium level of development in terms of health and education system and high in terms of access to information.

CONCLUSIONS

The main objective in this paper was to identify rural communities with similar sustainable development structures, using significant indicators of sustainability that led to the shaping of six different types / clusters. The approach taken was intended to draw attention to the fact that any proposed strategies / policies should start from existing reality and the Romanian rural area has, as we have seen, specific characteristics. In general terms Romania need for a specific concept of rural development.

This approach for the classification of rural communities may be an approach that, in future, could be for both local governments and central government, a startup based in developing effective strategies for rural development. In addition, the existing database, including a large number of indicators, harmonized for the entire studied rural area could be a real support for local actors in the identification of specific areas of action.

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REFERENCES

1. **EU, (2006)**, *Measuring progress towards a more sustainable Europe - sustainable development indicators for the European Union: data 1990 - 2005*. EU: Luxembourg.
2. **EUROSTAT, (2008)**, *Sustainable Development Indicators*. <http://epp.eurostat.ec.europa.eu> (query: 14/02/2008).
3. Florian Violeta, coord., (1998), *Rural Development*, Proiect PHARE Ro-9505-04-03, IEA, București.
4. **OECD (2007)**: *Society at a Glance: OECD Social Indicators - 2006 Edition*. OECD, Paris.
5. **Rusu, Marioara, (2005)**, *Dezvoltarea rurală – politici și structuri economice*, Editura Expert, București.