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## Ecological aspect of sustainable development of rural areas

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### Abstract

The essence of sustainable development consists in keeping balance between economic, social and ecological system. In the rural areas the most important is the ecological aspect. Sustainable development of rural areas is connected with modest exploitation of natural environment and resources and careful preserving the bio-diversity. It requires the development of such directions of economic activities that minimize anthropological pressure. Those are ecotourism and ecological agriculture.

**Keywords:** Sustainable development, rural area, ecology

### 1. Introduction

Sustainable development is a concept of global, regional and local development, opposing to the narrowly perceived economic growth concept. It is a response to the global character of environmental threats. Sustainable development is defined as a socio-economic development in which a process of integrating all political, economic and social activities is taking place maintaining at the same time the natural balance and durability of basic natural processes in order to guarantee possibilities to fulfill the basic needs of each community and each citizen both of contemporary and future generation <sup>[6]</sup>.

The essence of sustainable development consists in preserving a balance between economic, social and ecological system. This balance is especially essential in rural areas where human activity directly interferes in natural environment and where the form of this activity and its effects are dependent on nature. Because the rural dwellers, according to Wos <sup>[9]</sup>, are trustees of large part of natural resource, they have a great impact on preserving those resources to be in perfect state for the sake of future generations.

### 2. Concept of sustainable development of rural areas

In conception of sustainable development of rural areas the socio-economic development and spatial development must connect in a least collisional way in a man-environment system the main functions of rural areas: agricultural-production, residential, recreational, health, aesthetical, safety for biodiversity and landscape diversity and cultural heritage <sup>[2]</sup>.

In the literature of the subject it is underlined that the implementation in life of the rules of sustainable development in rural areas requires consideration the following aspects <sup>[6]</sup>: territorial, multifunctional, dynamics and democracy.

In territorial approach researchers are looking for different development option for rural areas, resulting from spatial economic, social and environmental differentiation.

The multifunctional approach means the necessity of consideration many aspects of rural space (demographical, economic, social and environmental).

The dynamic approach results from changes occurring in the economy, technology, social attitudes and natural environment.

In democratic approach researchers pay attention to the participation of different social groups in elaborating and realizing concept of sustainable development and coordinating activities through individual hierarchy levels in public administration.

In socio-economic development of rural areas one should consider the need to maintain invariably resources of natural environment. On the ground of conception of sustainable development there is a little difficulty in determining the rules for non-renewable environmental resources management. The usage of those resources causes their inevitable reduction. Therefore it is postulated that such usage should be in a way not to decrease the

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chances of future generations to satisfy their future needs. It requires an implementation in life the sustainable development management rules proposed by H. E. Daly <sup>[1]</sup>:

- The rate of the renewable resources usage should not exceed the rate of their regeneration.
- The rate of the non-renewable raw materials usage should not exceed the rate of reconstruction of renewable raw materials.
- The rate of harmful substances emission should not exceed natural capacity in terms of absorption of those substances.
- The question arises: In what way the rural areas should develop to realize the conception of sustainable development?

The conception of sustainable development of rural areas is fully realized by ecotourism and ecological agriculture.

There is no single definition of ecotourism; researchers describing ecotourism mention its individual components and distinctive features among other forms of tourism.

According to World Tourism Organization, ecotourism is characterized by the following features <sup>[10]</sup>:

- Full respect to natural environment and cultural identity of the local community.
- Minimal negative human impact on natural and socio-cultural environment.
- Motivated willingness to observe and admire both natural and cultural heritage richness of a given area.
- Activities directed at preserving natural areas for tourist purposes through delivering economic benefits to the local community and local government responsible for natural environment management; creating alternative sources of employment and income for the dwellers of a given area; enhancing natural and cultural awareness of local people.

It should be added that the purpose of ecotourism is not only integrating tourist activities with functions of environmental protection, but also shaping new aesthetical attitudes and behaviors of the tourists. The development of ecotourism also creates possibilities to include local community to be responsible for state of natural environment.

The next direction of sustainable development for rural areas is the ecological agriculture.

Ecological agriculture (biological, organic) is defined as a management system of balanced vegetable and animal production in within farms, using unprocessed technologically means of biological and mineral origins and natural processes taking place there in the farms <sup>[8]</sup>.

Agricultural production in the ecological farms is conducted according to the rule of sustainable development; activates natural mechanisms of agricultural production through using natural production means and guarantees permanent fertility of the soil, health of plants and animals <sup>[7]</sup>. These assumptions set out the most important goal for ecological agriculture: production of high quality foods and natural environment protection.

It needs to be highlighted that Poland has an immense capacity to effectively implement strategy of sustainable development in agriculture. It results from conditions such as: low level of soil artificial fertilization and non-degradable natural landscape. Polish agriculture to a large

extent produces using extensive methods demonstrated by fact of 2-3 times, on average, less usage of mineral fertilizers and 7 times less usage of pesticides than OECD countries. Due to low production intensification, Polish agriculture does not impact significantly on transformation of landscape and natural environment. Researches show that only 3% of farmland in the country, due to heavy metal contamination, needs exclusion from growing plants for food purposes. Tightened requirements of ecological production are fulfilled in 80% of EU <sup>[3]</sup>.

Polish ecological farms increasingly connect food production using ecological methods with the possibility of rest. Nowadays, amongst 3760 such ecological farms, 214 already offer such tourist services <sup>[4]</sup>. Such forms of ecotourism offers three common elements: production (agriculture), service (tourism) and protection, preserving natural environment <sup>[10]</sup>. Therefore it fully realizes the conception of sustainable development of rural areas.

### 3. Implementation of sustainable development in the countryside

The implementation of sustainable development in rural areas encounters many socio-economic barriers of which the two most essential are as follow.

The first barrier results from the lack of financial resource to invest in ecological infrastructure. Polish countryside is featured with low level of development of such kind of infrastructure expressed by insufficient number of dumps and sewage treatment plants.

The second barrier is low level of ecological awareness of the dwellers in rural areas <sup>[5]</sup>. The level of ecological awareness (understood as knowledge, stand point and imagination about the role of environment in human life and the resulting behaviors from those assumptions) in an essential way determines the successful realization of conception of sustainable development <sup>[5]</sup>.

As shown in researches <sup>[3]</sup>, only 30% of respondents has awareness of negative impact of intensive agricultural activities on natural environment. The transformation of country dwellers into "homo oecologicus" requires spreading information and knowledge in terms of ecology. The superior task of ecological education is to nurture ecological awareness as starting point of all kinds of pro-ecological activities.

A question arises: What are the possible activities for implementing the conception of sustainable development in rural areas? The key role should be played by local governments who should undertake following actions in terms of:

- Disseminating methods for agricultural production that are favorable for natural environment, including ecological agriculture.
- Disseminating natural environment friendly non-agricultural entrepreneurship, including eco-tourism.
- Limiting the harmful impact of agriculture on natural environment in the areas with high natural and landscape values through development of ecological infrastructure (e.g. sewage treatment plant).
- Providing helps in development of pro-ecological entrepreneurship in forms of tax deduction and organizational eases.
- Solving issues of land management which have been

marginalized (afforested).

- Region promotional activities (folk art, local products and rites and other tourist attractions).

The chances to make activities toward sustainable development of countryside more dynamic are seen in the realization of help programs supported by EU funds, directed at stimulating pro-ecological undertakings. In this context the most essential role is carried out by centers for agricultural consulting which conduct training in the field of rules and requirements concerning the usage of EU programs and disseminating good practices in agricultural production.

#### 4. Conclusion

Implementation of conception of sustainable development of rural areas requires respecting character and quality of rural space and conscious management of its potential. Keeping in mind both social needs as the benefits of ecosystems one should use those areas in a way that respect both the natural values and cultural identity. It is necessary to increase investment expense on ecological infrastructure and the level of ecological awareness expressed by the acquaintance and understanding the way human life coexists with nature.

Natural environment and its richness and biodiversity in particular create favorable conditions for development of eco-tourism and ecological cultivation. Minimizing anthrop-pressure, both eco-tourism and eco-agriculture fully realize the conception of sustainable development. They fulfill also the role of factor stimulating economic activation in rural areas, especially within the protected areas with greatest values of natural environment.

#### 5. Acknowledgement

Dr Nguyen Hoang Tien is a graduate of master study at the Helena Chodkowska University in Warsaw (2002) and a graduate of PhD study at the Warsaw School of Economics in Poland (2006). He specializes in change management and competitiveness of enterprises, international relations and security issues, strategic and human resource management, marketing management, higher education management, leadership and entrepreneurship, international business. He is an author of over 300 scientific publications published worldwide.

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