

AGROECOLOGICAL PARKS, AN INNOVATIVE SOLUTION BASED ON BIO-ECO-ECONOMY FOR SUSTAINABLE RURAL DEVELOPMENT AND ENVIRONMENTAL PROTECTION IN THE BANAT EUROREGION

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REZUMAT. Banatul este o parte componentă a regiunilor Dunărene. Strategia de dezvoltare și ridicare a competitivității economice a Banatului necesită o nouă dimensiune a cooperării bazată pe conlucrarea instituțiilor de cercetare, inovare, învățământ. În secolul 21 s-a catografiat harta genomics pentru oameni, taurine, porci și alte specii de animale. Cu ajutorul roboților și computerelor, laboratoarele de cercetare genetice au făcut un pas important. Agricultură Banatului inclusiv utilizarea tehnologiilor respectuoase cu mediul nu se mai poate face fără existența laboratoarelor de cercetare performante mai ales în genetică și biotehnologii. Biotehnologiile puse la punct cu ajutorul acestor cercetări ajută la descifrarea exactă a mecanismelor fundamentale ale ciclului vieții și limitarea biohazardului genetic. Un alt factor de hazard al biologic este reprezentat de Genetically Modified Organisms (GMOs). Principala cale pentru diminuarea efectelor diferitelor tipuri de biohazard se poate face doar prin aplicarea unor tehnologii de înaltă performanță care aparțin geneticii și nanotehnologiilor, iar pentru viitor picotehnologiilor.

Cuvinte cheie: protejarea mediului, ecological agropark, bio-economy, bio-ecoeconomy, dezvoltare rurală, technological innovation.

ABSTRACT. In order for the Banat Euroregion to be appealing to the investors and economically competitive during the period between 2014 and 2020, we have to choose the bio-eco-economic development. This implies technological innovation, industrial ecology and environmental parks, closed-loop systems, ecological modernization, biotechnology. Water and waste recycling needs a qualitative management and high-tech equipment that is nature-friendly. The Agroparks in Romania are something new. The innovative project that this paper proposes has been presented in other sessions as well, including at the European Commission for bio-economic development in November 2012, at Bruxelles and in February 2013 at Dublin. The project represents the work of a team made up by specialists in various domains under the management of GNIR Holding – Postdoctoral School Team from Romanian Academy Bucharest. It follows the EU rules and it presents the ways in which we can raise the economic competitiveness in the Banat Euroregion and create more workplaces.

Keywords: environmental protection, ecological agropark, bio-economy, bio-ecoeconomy, rural development, technological innovation.

1. INTRODUCTION

The regional development of Banat through the strategy based on bio-eco-economy implies technological innovation, industrial ecology and eco-industrial parks, closed-loop systems, ecological modernization, biotechnology and the implementation of the concept of energy-environment-greenclusters.

2. METHODOLOGY

Eco-Bio-Economy may be considered an attempt for a new eco-economic and bio-economic vision,

which reunites in an integrated pattern: the economy, the ecology, the biodiversity, the eco-economy and the bioeconomy focusing the integrated smart sustainable development of the world. To this valuable areas, the Eco-Bio-Economy may address possible Eco-Bio-Policies and Eco-Bio-Strategies and allows the contribution of the social economy, of excellence and of the “*all in one quality*”, of the welfare economy, of solidarity, social corporate responsibility, as elements which may be utilized in an integrated practical future platform in a multipolar world for a healthy and ecological environment, to ensure and to promote a smart, creative, innovative, economic sustainable

development. The use of the decisions-making process at the highest level and the modern diplomatic tools are the expected and needed catalytic agent for a global eco-bio-policy and eco-bio-economic successful equation [1].

The aim of this paper is to promote agroindustrial centres where less energy is to be consumed, less waste to be produced and then recycled and less materials which cannot be recycled to be used [2].

The Banat Euroregion, having a surface of approx. 21000 square kilometres, presents itself with various forms of landscape, from fields to mountains, forest areas, large pastures and rich resources of fresh water: the Danube, Barzava, Timis, Mures, Bega. Within this territorial capital there is also the qualified workforce of the local communities. Banat must become an attractive region for investors. In this way, new workplaces will be created, especially for young people and thus the population will be a stable one [3]. One of the ways in which economic growth can be reached is the transformation of Banat into a bioregion [4], meaning that there will be promoted and implemented those technologies which are nature-friendly, organic farms, modular agriculture, silviculture farms [5]. The ecologic Agropark presented in this paper represents the work of a team made up by specialists in various domains under the management of GNIR Holding, a company specialised in projects and Postdoctoral School Team from Romanian Academy Bucharest.

3. RESULTS AND DISCUSSIONS

The existence of the Agropark means a cycle of energy-waste-water. The implementation of these forms of the future can be easily done due to the knowledge accumulated in what concerns the respect for nature in rural communities where all the bioresources in the area are used thus allowing the Banat region to maintain its economic force throughout the new challenges – climate change, water and food resources diminishing, expensive energy, natural catastrophes, illnesses, bioterrorism .

Agroecology is applied in these agroparks. The water cycle and the waste recycling needs a qualitative management and the use of high-tech equipments. The 21st century technologies can be applied only by educated young people and for this we have to focus on developing the relation between innovation-research-education.

In Holland the idea of agroparks has been developed quite well. For example, there is the Agrocentrum Westpoort where they make products from fish, vegetables and pork using modular agriculture, according to Smeets P. [6] who published in his PhD thesis in 2009. He also gives examples of

agroparks from Shangai (China) and Greenport Nellore (India).

In România, GNIR Holding and Working Group propose the implementation of the first integrated pilot bioeconomy project entitled: "Innovation Project for Agroindustrial Food and Fedder Park, Integrated with Rural Business Center based on Bio-economy".

This project aims to achieve practically a model developed by academics and university to be tested and improved by local authorities with economic agents (representatives from industry). For financing there are proposals for accessing European funds for research, innovation and science (FP7-KBBE, specific the appeal of 2013).

The project was presented at the European Commission for Bio-economic development in November 2012 in Bruxelles where it was appreciated as being innovative in this field and as one of the ways in which economic competitiveness can be raised. In 14-15 February 2013 the project was presented in Dublin (Ireland) where it was also accepted for European funding. This project, based on the norms of the EU, can be seen as a model for Eastern Europe, since for its implementation there needs to be a created a large consortium. The proposed consortium for the implementation of the pilot project in Romania is formed by various institutions from countries which already have experience in this field such as Germany, Ireland, Belgium, Holland, Danemark, Finland. These institutions are part of the academic layer, national authorities, economic agents, religions, NGOs. In Romania the partners for the consortium come from the same type of institutions. In order to implement the strategy of development through bio-eco-economy in Banat, the Transilvanian Rare Breeds Association was included in this working group since it promotes animal raising and animal products processing through nature-friendly technologies [7].

In Figure 1 there can be seen the scientific and innovating aspects of the rural Agroecological parks proposed by GNIR Holding and the Workings Groups. The project for this park is formed by three main components: processing animal products, processing vegetable products and recycling animal and vegetable waste. The surfaces of land outside the city of localities occurs first processing of vegetables and animal raw materials. All waste is used to produce bioenergy results. The park is under EU environmental legislation at least 500 m from the vilage.

In the centre of this Rural Agroecological Park there is the Rural Business Center presented in Figure 2. This center is formed by multiple buildings with different aims: trade, services, entertainment. The Business center can be used by the producers

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from various regions of the Danube for presenting and promoting their products and services.

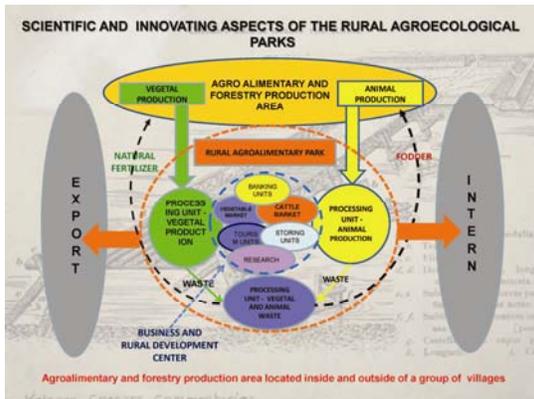


Fig. 1. Rural Agroecological parks (Orig. GNIR and team works).



Fig. 2. Rural Business Center (Orig. GNIR and team works).

4. CONCLUSIONS

Agroparks are a way of ecological modernisation for the rural area in the Banat Euroregion, of bio-

economic development, of environmental pollution reduction and of reducing the consumption of materials, minerals and energy, promoting the implementation of an ecologic agroindustry. In these agroparks a better control can be made upon product quality and food safety for the citizens.

These would be good for all Danube countries to present their products and production by rotation, exchange technologies, develop entrepreneurship and association [8].

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