NATURE AS INDICATOR OF PLACE ECONOMIC SUSTAINABILITY

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Abstract. This article analyses the role of nature as an ecosystem in economic sustainable development of rural environment. The analysis is carried out using direct face-to-face interviews and focus groups with active people in rural areas who during the period 2009-2013 have developed or participated in the preparation of project applications in the EU LEADER programme in the territory of Madona Region Community Foundation including 5 local municipalities in Latvia. The operation strategy of the Foundation aims at developing a quality living environment in the area. The following secondary source was used for the analysis of interrelationships on the importance of nature in place economic development - Latvian Country Tourism Association survey of tourists about the factors that affect the choice of destination for the holiday in a rural area in Latvia. Primary and secondary results of the study showed that in general the nature has an important role in place economic sustainable development, because that is why people choose these places for living, working and leisure.

Key words: nature, place development, place attractiveness, green development.

JEL code: Q5

Introduction

The authors focus on nature significance as one of the indicators of place economic sustainable development in rural areas. For many years the most common indicator for estimating development of a country or a region on the global scale has been Gross Domestic Product (GDP) per capita. Nowadays different types of indexes are used to describe poverty; if the index of poverty is lower, it indicates higher level of development. Another set of indexes is about footprint or environmental performance (Yale University, Columbia University, 2012). These indicators or indexes are mainly used for global or national comparisons to evaluate the level of pollution or area covering with forests etc. Elgert and Kreger argue that sustainable development indicators on the global scale such as Rio, and also on local scale such as local Agenda 21 do not work by political and rational reasons (Elgert, Kreger, 2012). The aim of the

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research is to look at how significant the nature is in terms of visual, audio and scent value for local inhabitants and travellers to choose a place for living or place for spending their leisure time. The object of the research is nature role in place development nowadays. The authors assume that the value of nature as an indicator for place of living and working will increase in the future because eco or green lifestyle becomes more popular every year. In the authors’ view, nature is a significant pre-condition for economic sustainable development of a place because it attracts people to the place, and at the same time it is a resource for economic development in such sectors as bio-agriculture, forestry, fishery, tourism, efficient and smart production of nature based resources. Rural areas are characterized mainly by traditional economic activity as well as there are just a few sectors of the economy (Weber, 1999). Zaluksne in her study of cities confirms that the micro-towns are part of the rural environment, and according to the economic diversification on the basis of NACE classifier, there are mainly up to four economic activities there (Zaluksne, V. 2014).

Herriman et.al look at sustainability as a relationship. They consider that the social dimension of sustainability is about connections between people, and the environmental dimension of sustainability requires to work together to make change (Herriman, 2012). The social dimension is taken into account in this study to make connection with local people during the investigation by personal interviews.

It is a qualitative research based on a written survey and face-to-face interviews with local inhabitants of Vidzeme region in Latvia from five local municipalities around Madona town which is a centre of regional development significance. At the same time the number of population in urban areas in the world is increasing but there is a certain number of people who prefer to live in rural areas. In case of Latvia, the authors consider that the whole country is a rural area, excluding capital and 8 other cities where the population varies from 643 368 in Riga and 23 269 in Jekabpils. The authors asked the respondents why they prefer to live and work in this area. From this point of view, nature values are not estimated or included in the global sustainable development indexes because places are local areas for individuals. In the European Union, Green development policy becomes more significant as the EU Green Infrastructure report is being implemented, including evaluation of various development projects.

Another study the results of which are used in this article is the Latvian Country Tourism Association "Lauku celotajs" (Country Traveller) survey conducted in the spring 2014, when local and foreign travellers were polled on the website of the organization to find out the criteria and attraction of travellers for choosing their destination in the countryside of Latvia.

The acquired results from both practical studies show the significant role of the component of nature in the economic development of rural areas, both for people who permanently live and work there as well as for those who prefer countryside to relax from the daily life in the city.
1. Diversity of indicators for sustainable regional development

A perception of a place development is changing over the time in different parts of the world. One of the most used indicators is GDP per capita used when national governments and global organisations want to describe the level of development and achievements by a country or a region. Now the authors can agree that the situation is changing; there are many discussions about GDP as the main economic development indicator (Elgert, Krueger, 2012). Instead of GDP, Gross National Happiness as an indicator was designed in Bhutan where this term is known for more than 40 years. At the same time different synthetic indexes become more popular, including several measurements, for example:

ESPON INTERCO project (2013) has set up six groups of territorial objectives with indicators: 1) strong local economies ensuring global competitiveness; 2) innovative territories; 3) fair access to services, market and jobs; 4) inclusion and quality of life; 5) attractive regions of high ecological values and strong territorial capital; and 6) integrated polycentric territorial development. The authors are going to explore the fifth territorial objective, since it is their interest during this research. These indicators have potential vulnerability to climate change, air pollution - PM10, air pollution - ozone concentrations and soil sealing per capita (INTERCO, 2013).

Another ESPON project KITCASP compiled indicator sets on four different themes: economic competitiveness and resilience, integrated spatial development, social cohesion and quality of life, environmental resource management. The group of social cohesion and quality of life includes green space indicator (% of total population within 500 metres of public managed green areas) and well-being index which are connected with significance of nature. The group of environmental resource management includes number and status of protected European habitats and species and water quality status (absolute values on the actual status or objective met/failed (as per WFD for groundwater, rivers, lakes, estuarine, coastal)) (KITCASP, 2013).

There was a discussion in September 2014 about how far different parts of Europe have progressed towards a green economy (GREECO, 2014). The ESPON research is focusing on five core spheres of green economy from the regional point of view: territorial sphere, economic sphere, ecosphere, environmental sphere and social sphere. The results of this project show that the environmental sphere in particular has the lowest performance; however, the researchers found out through case studies that higher awareness level is significant for greening economic sectors and in order to foster sustainable practices. The awareness increases the demand for greener services and products for consumption (GREECO, 2014). The authors consider that investments in environmental awareness are still crucial in Latvia. GREECO project compiled factors of green economy, for example, the indicator for key economic instrument is environmental protection expenditure in euro per capita; the indicators for territorial assets and physical conditions are percentage of Natura 2000 and onshore wind, photo voltaic and biomass energy potentials (GREECO, 2014). The authors believe that the
contribution of GREECO project to attract attention to the sustainable development in practice is supportive.

It is important to understand what indicators can be used on the level of single area that would describe the place economic sustainability in rural areas. This is by far less studied than place attractiveness (Zaluksne, V.), brand (Brencis, A.), or place suitability for some sector. In this article, rural areas, according to the OECD classification, are understood as sparsely populated areas with market towns. Economy is based on natural resources in rural areas with low population density. Key resources of development provided by rural places according the OECD study are: small and medium enterprises, natural resources, amenities/landscape, ecosystem services and green fields. Ecosystem services are mentioned as fundamental for overall environmental sustainability and for citizens’ quality of life. In this study landscape is evaluated as a public good which can be valued as a factor that increases quality of life and the potential for tourism (OECD, 2013).

There is a traditional view that the region's identity is shaped by the natural and cultural features in a geographical space that inhabitants associate themselves with (Paasi, 2013). Natural and cultural values affect the brand development of areas, place visibility, for example, in the research area of Cesvaine municipality, the Cesvaine castle is considered to be a significant value both as a cultural heritage and an opportunity for the economic development of the town and the surrounding areas, since it is the castle that creates place visibility. Similar situation is with Lake Lubana, which is the largest lake in Latvia, and the developed Lubana wetland protected natural area, which is the basis for the development of the economic life of the place, such as tourism, fishery, research in this rural area.

For its implementation and evaluation, the strategy of Madona Region Community Foundation defines quantitative and qualitative indicators according to eight actions. Out of these, among quantitative indicators, two can be attributed to the natural and cultural environment: 1) at least 20 leisure objects developed or established; the authors believe that at least some of these objects are in the open air, and thereby associated with nature, 2) at least 10 cultural and historical sites renewed (Madona, 2008).

2. Case study of nature importance in place sustainable development

The authors S.Rozentale and A.Livina carried out the research in a rural area in the Eastern part of Latvia from May to October 2014. The surveys were conducted in a written form and completed by the specialists of local municipalities which were involved in the work on development issues, including the EU LEADER Programme. There were 39 respondents who provided their understanding of the meaning of qualitative living environment. During the same period both researchers conducted face-to-face interviews and a few phone interviews with the staff of municipalities, local entrepreneurs or members of NGOs, in total 155 respondents.
The case study area includes five local municipalities (Madona, Lubana, Ergli, Cesvaine and Varaklani) with total area of 3353km² or 5.2% of Latvian territory, and 35 698 inhabitants or 1.76% of Latvian population in 2014. The area includes a town of regional development significance – Madona, and centres of local development significance - Lubana, Cesvaine and Varaklani.

The Latvian Country Tourism Association “Lauku celotajs” (Country Traveller) conducted the survey in spring 2014 on the website www.celotajs.lv on criteria and attractions to select destination in the countryside for leisure. There were 787 local and 129 foreign respondents, in total 916 respondents.

**Research results and discussion**

The authors start with the findings of the written survey where the respondents were asked to explain the term “qualitative living environment”, since all five municipalities joined in a non-governmental organization “Madona Region Community Foundation” to implement local actions supported by the EU LEADER Programme. The goal of their local development strategy was to support citizen participation and involvement in the development of high-quality living environment in the territory of Madona Region Community Foundation (Madona, 2008). According to the results, the understanding of qualitative living environment can be divided in three parts: economic, social environment and culture, and governance.

The results of survey show that **qualitative economic environment, cultural and social environment and governance** are characterised mainly by the following conditions and possibilities (see Figure 1):
The respondents perceived the economic aspect of qualitative living environment as the most serious because this was the weak point in the research area. One of the interviewees stated that the emotional attitude also constituted a quality living environment (respondents, 29 September, 2014). Another respondent suggested that small producers should be supported, as there were not many who wanted to do something in the countryside (Respondents, 2014).

Interviews with entrepreneurs and the self-employed who had submitted their projects in the EU LEADER programme in the business (total of 45 applications) and home production activity (total of 25 applications) in this territory of research, the project breakdown by industry was the following (see Table 1):

<table>
<thead>
<tr>
<th>Qualitative economic environment</th>
<th>Cultural and social environment</th>
<th>Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Closeness of place of work and possibility to receive services;</td>
<td>• Place where to relax;</td>
<td>• Educational, medical and social services can be received freely and conveniently;</td>
</tr>
<tr>
<td>• Well-developed entrepreneurship;</td>
<td>• Cultural and sports services can be received freely and conveniently;</td>
<td>• Schools, medicine;</td>
</tr>
<tr>
<td>• Safe environment, place where one can provide living for themselves and the family;</td>
<td>• Environment where a person can do their hobbies and other activities they find important;</td>
<td>• Availability of education;</td>
</tr>
<tr>
<td>• Possibility to choose a job, to work in a profession, to do a creative work;</td>
<td>• Inhabitants have possibilities to fulfill their creative desires (culture, sports, hobbies);</td>
<td>• Possibilities for extracurricular activities;</td>
</tr>
<tr>
<td>• Inhabitants have regular income; Balanced income and expenditure of local inhabitants;</td>
<td>• Possibility to spend free time in varied and interesting ways by joining a number of activities.</td>
<td>• Leisure time activities for youth and children;</td>
</tr>
<tr>
<td>• Support to local inhabitants;</td>
<td>• Finding groups of common interest;</td>
<td></td>
</tr>
<tr>
<td>• Good shops with a wide range of products;</td>
<td>• Extracurricular activities;</td>
<td></td>
</tr>
<tr>
<td>• Well-established infrastructure;</td>
<td>• Leisure time activities for youth and children;</td>
<td></td>
</tr>
<tr>
<td>• Well-arranged environment;</td>
<td>• Security.</td>
<td></td>
</tr>
<tr>
<td>• Safe and healthy environment;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Beautiful nature;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Educational, medical and social services can be received freely and conveniently;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Schools, medicine.</td>
<td></td>
<td></td>
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</tbody>
</table>

Source: Survey results of Madona region community foundation carried-out by Rozentale, Livina, 2004

Fig.1. Perception and understanding of qualitative living environment by locals
Table 1

Number of projects submitted in the LEADER programme by industry during the period 2009-2013 in the research territory

<table>
<thead>
<tr>
<th>Business activity by sector</th>
<th>Number of submitted projects (n=45)</th>
<th>Agricultural production, processing or reprocessing and pre-treatment at home by sector</th>
<th>Number of submitted projects (n=27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment rental services, including logging</td>
<td>22</td>
<td>Fruit, garden establishment, processing of berries, vegetables and mushrooms</td>
<td>11</td>
</tr>
<tr>
<td>Car service, development</td>
<td>5</td>
<td>Beekeeping</td>
<td>10</td>
</tr>
<tr>
<td>Woodworking, including chopping firewood</td>
<td>5</td>
<td>Rabbit-breeding</td>
<td>1</td>
</tr>
<tr>
<td>Equipment in the agricultural sector</td>
<td>3</td>
<td>Beef cattle breeding</td>
<td>1</td>
</tr>
<tr>
<td>Beauty services</td>
<td>2</td>
<td>Meat processing</td>
<td>1</td>
</tr>
<tr>
<td>Tourism</td>
<td>2</td>
<td>Floriculture</td>
<td>1</td>
</tr>
<tr>
<td>Binding of digital works</td>
<td>1</td>
<td>Cultivation of grain</td>
<td>1</td>
</tr>
<tr>
<td>Road construction</td>
<td>1</td>
<td>Bakery</td>
<td>1</td>
</tr>
<tr>
<td>Land surveying</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal working</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewing services</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food processing</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Madona Region Community Foundation, 2014

Both the number of projects submitted by sector as well as the content of the projects submitted, and the interviews with project applicants pointed to the fact that people were aware that, when living in a rural environment, one had to make use of site-specific natural advantages or avoid the limiting factors. The research territory is hilly with scattered areas of agricultural lands. Thus, beekeeping has developed rapidly in this territory, historically this activity has been there but also the support provided by the state in the form of subsidies has accelerated the expansion of the sector as a business rather than a hobby. A respondent points out that the land area is small and located on the hillsides, so it is necessary to find the most appropriate type of management of such a place.

Another respondent during the interview indicates why he chose to prepare a project proposal for the establishment of an apple orchard: it is because in the place where the property is located other berry plantations could not be developed due to a bird migration route.

During the study the researchers discovered two projects that were closely related to the economic sustainable development of a place, which were implemented by associations. One of them was Kala Lake Board project which had brought together the people living around the lake for the sustainable management of the lake, in order to maintain fish living there as well as for the promotion of environmental education activities.

The second project, popularly called Iron Horse, provided purchasing of wood cutting technical unit that provides environmentally friendly management in small forest areas. The
purchasing of this equipment is special due environmentally friendly approach, thus, it is expensive and time consuming but in turn makes it possible to cut down and transport exactly the necessary trees from the forest, providing an opportunity for adjacent trees to grow; this is particularly important for the storm affected areas with fallen trees. The use of this equipment promotes awareness of environmentally friendly logging, particularly in environmentally sensitive natural areas. For the maintenance and purchase of such equipment, as one of the respondents indicated, the optimal size of the cooperation was around 3-4 owners, as everyone who uses the equipment must take responsibility. The respondent pointed out that in the future such cooperation model will be useful, since it was not economically viable to buy small-scale equipment just for one farm, while the prices are more expensive when buying the service from outside but overall the price is reasonably expensive, including costs and maintenance costs.

The second study, conducted by the Latvian Country Tourism Association "Lauku celotajs" (Country Traveller), has revealed that the major attractions for place selection are determined by the scenic component, which includes the cultural landscape developed in the process of human and natural interaction - closeness to the sea or lake (40%), possibility to observe rural lifestyle (19%), availability of the cultural heritage nearby (19%), territory of the national park or closeness (11%), and closeness to the town (9%), other (3%) (see Figure 2). The results of this and other surveys conducted in the previous years by the Association, show that people have an increasing desire to go to natural areas, untouched by the industrial and urban environment, where significant natural values and "live" rural environment is preserved.

![Figure 2. Criteria of choice of place for recreation in the countryside. Case study in Latvia](chart)

Source: The Latvian Country Tourism Association "Lauku celotajs" (Country Traveller), 2014

Despite the desire to enjoy less-touched nature, the modern traveller at the same time also wishes to receive adequate and quality services in a recreation place - accommodation, food, public transport, equipment rental, guide services and getting to know the "local life". In Latvia
the "countryside goodies" tourism product has evolved over the past decade, offered by local farms (> 300). According to the above survey, the travellers wish to include the following as the main activities of their holiday: active rural enjoyment (walking, cycling, boating) - 24%, farm-grown produce and home-cooked meals (23%), open farm visits (15%) and contact with animals (12%) (see Figure 3). The survey results show that a very important resource for rural areas is a local businessman who creates added value to the rural and natural environment, which are essentially interrelated and have impact on each other. Often tourism-related activities are also one of the not-many economic activities (excluding agriculture and forestry) in these areas.

![Bar chart showing types of activities that respondents would like to include in their country holidays, %](image)

Source: The Latvian Country Tourism Association "Lauku celotajs" (Country Traveller), 2014

Fig. 3. Types of activities that respondents would like to include in their country holidays, %

Natural base - species, habitats and landscapes - is very important venue for various tourism-related activities (see Figure 4). According to the survey carried out by "Country Holidays", travellers want to pick mushrooms and berries (24%), seek medical etc. herbs (21%), observe wild animals and birds (20%), fish (19%), and extract birch juice (13%). One of the reasons for city dwellers to spend their leisure time in the rural environment is peace and silence, which distinguishes it from the environment where the modern man spends their daily life (noise, poor air quality, stress etc.).
Conclusions, proposals, recommendations

In assessing theoretical conclusions on the use of a variety of indicators for national, regional and place development, it is noted that the chosen indicators often do not reach their goals. At the same time, the authors note that the indicator setting and application changes. Local governments and institutions begin to use so far unused indicators to attract attention in domestic and foreign markets, such as city brand tops, cities more appropriate for living, working, tourism.

This research and the Latvian Country Tourism Association survey results indicate that the nature as a set of ecosystem has significance in place economic development, because the beauty of nature and scenery, and peace are factors why number of people choose rural areas in particular as their place of residence. While living in a rural area, it is natural that people are looking for business opportunities provided by the existing natural resources in terms of agricultural activities and services for tourists. Furthermore, tourists who want to spend holidays in rural areas recognize natural resources as important in order to visit particular places for leisure.

Acknowledgements

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