

## CONCEIVING THE SUSTAINABLE DEVELOPMENT STRATEGIC OBJECTIVES OF OAȘ AREA, SATU MARE COUNTY, ON THE BASIS OF NATURAL CAPITAL ASSESSMENT

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### **Abstract**

*The sustainable development essentially depends on natural capital or environment assets and conceiving a sustainable development strategy at local level means first to evaluate it, through inventorying all types of natural resources: vegetable, animal, protected areas, forest and water resources, crops and farming resources, land and pastures and meadows.*

*The area called Țara Oașului, located in the north-eastern part of Satu Mare county has some particular features: a wealth of natural resources (such as forests, stone, mineral water, wild flora and fauna), population with a high level of income and luxurious but uninhabited houses, a high level of migration for work abroad (from the very beginning of nineties), a lack of labour force and active population, a reduced life expectancy, and specific popular traditions (costume, events) and culture.*

*We carried out a field research, by applying a questionnaire to local population, authorities and experts in order to obtain an estimation of natural resources, as volumes and ways of exploitation (for own consumption or market selling) and the main trends in local traditional employment. The research conclusions are valuable in order to conceive the sustainable development strategy of the area, taking into consideration the local capabilities to use the existing natural resources by protecting the environment, to build an appropriate social capital and to attract the required for economic growth human and financial resources.*

**Keywords:** *sustainable development, natural capital, natural resources, agriculture, environment and development*

**Clasificare JEL :** *Q01, Q20, Q30, Q10, Q56*

### **1. Introduction**

In order to be effective and contribute to the development at any local level the concept of sustainability has to be *operationalized* and *contextualized*. *Operationalizing* means to clarify which specific goals are associated to the model of sustainable development and *contextualizing* is referring to the tailoring of the model to the prevailing general conditions in a given community [3]. But in any circumstances, three main goals are taken into consideration: economic, environment and social sustainability.

The principles of sustainability: securing human existence, maintaining society's productive potential and preserving society's options for development and action are extended to a set of "sustainability rules" [2],[5] or "sustainability requirements". Whatever the context, the natural capital is one of the inputs of any sustainable development strategy, alongside with others: anthropic, human and social capital.

Natural capital is an extension of the concept of capital to goods and services provided by the natural environment. It means the world's stock of natural resources, which includes geology, soils, air, water and all living organisms [9], [10]. The Natural Capital Committee's State of Natural Capital Report (2013) defines natural capital as: the elements of nature that directly or indirectly produce value to people, including ecosystems, species, freshwater, land, minerals, the air and oceans, as well as natural processes and functions. An ecosystem is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment, interacting as a functional unit, humans being an integral part of it [6],[7]. Natural

assets are providing services called "ecosystem services" which, combined with other types of capital, are producing goods, used or consumed by population. Ecosystem services are the benefits people obtain from ecosystem.

Ecosystem services can be classified into the following groups: provisioning, regulating, cultural and supporting services. Provisioning services include food and fiber (crops, meat, fish and honey), water, fuel, genetic resources, biochemical, natural medicines and pharmaceuticals. Regulating services refer to water purification or waste treatment, climate regulation, noise and air pollution reduction, flood and natural hazard reductions, erosion, disease and pest regulation, storm protection and pollination. Cultural services consist of non-material benefits obtained through cultural diversity, recreation or aesthetic, spiritual, religious values, knowledge, education values, cultural heritage, recreation and ecotourism. Supporting services include biodiversity, primary production, photosynthesis, soil formation and retention, nutrient and water cycling [12].

The anthropic capital of a given community includes manufactured or produced capital as a result of economic activities: industry, agriculture, transports, infrastructure, energy and spatial planning.

Human capital comprises educational capital (knowledge and skills), professional work experience, health capital and some forms of social capital [4]. Social capital of a community means trust and behavioral norms, social interactions and cohesion, local governance and institutions (see [8]).

In the model of sustainable development that we consider in the purpose of this paper, these capital inputs are converted into results to obtain well-being in economic, environmental and social sense (Figure 1).



Figure 1 Model of sustainable development  
Source: authors' view based on specific literature review

The economic demand for goods and services is impacted by natural, anthropic and human capital as well as by the ecosystem services and influence, at its turn, the supply of goods and services. (Figure 2).

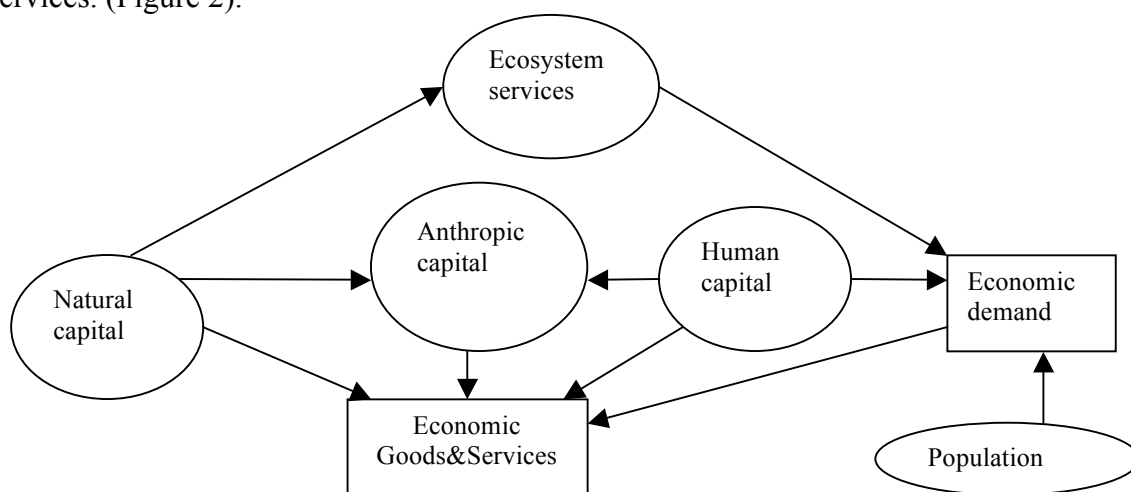


Figure 2 Types of capitals and their influence upon economic demand  
Source: adaptation after [1], p.39

In our paper, we expose a particularization of the sustainability model (Figure 1) as well as its thematic contextualization for a sustainability strategy in the case of the rural area called ”Țara Oașului” from Satu Mare County into a proposal of strategic objectives, tailored to the specific situation of this area.

## 2. Methodology

”Țara Oașului”, located in the north-eastern part of the Satu Mare county, consists of nine rural administrative units: Bixad, Călinești-Oaş, Cămârzana, Certeze, Gherța Mică, Orașu Nou, Negrești-Oaş, Rața, Târșolț, Turț și Vama and the town of Negrești-Oaş.

We carried out a field research in order to have an estimation of natural and agricultural resources in the administration units located in the target area, their growth, processing and diversification possibilities.

An exploratory study was developed based on a questionnaire of 125 items grouped in 5 sections: fruits and vegetables (vine, orchard, fruits trees, strawberries, crops, vegetables), animals (fish, spontaneous fauna, domestic animals), pastures, others and local occupations and labour force shortage. The questionnaire was applied to 381 individuals, 70% of them were local inhabitants, 15% representatives of local authorities and 15% agricultural experts from the ten administrative units. In the sample, 50% were individuals with higher, 35% with secondary and 15 with primary education.

The field research was complemented by the examination of local authorities public documents, regarding the local agriculture, employment, business and social environment. In addition, we explored the ecological issues related to the target area (Natura 2000 sites, pollution, soil degradation).

We performed the following steps in order to conceive the general objectives of the sustainable strategy of Țara Oașului:

Step	Results
1. Assessment of natural capital and other capital inputs (anthropic, human and social) through field and desk research	SWOT conclusions
2. Linking the identified problems with the sustainability requirements	sustainability problems-requirements
3. Setting up the strategic objectives according to SWOT conclusions and sustainability requirements	objectives on the three dimensions: economic, environment and social

## 3. Main findings

All all information gathered from the field and desk research are synthezised in a SWOT matrix (Table 1).

**Table 1 SWOT analysis of Țara Oașului**

Strenghts	Weaknesses
<ul style="list-style-type: none"> <li>-wealth of natural resources (water, wild fruits and flora);</li> <li>-agriculture potential (strawberries, livestock,</li> <li>-touristical potential (fishing, hunting, mineral and therapeutical water, traditions);</li> <li>-traditional products (“magiun”, ”țuică”);</li> <li>-cultural traditions (music, dance, costumes, events, ceramics);</li> <li>-high income of families (luxurious houses);</li> <li>-existence of Țara Oașului Local Action Group (LAG).</li> </ul>	<ul style="list-style-type: none"> <li>-low capacity to capitalize the natural and agricultural potential;</li> <li>-low level of active labour resources and employed people due to the massive migration abroad;</li> <li>-low level of association (lack of trust in partnership);</li> <li>-low interest for environment issues;</li> <li>-low level of local business;</li> <li>-low absorbtion capacity of European funds;</li> <li>-declining population, reduced life expectancy;</li> <li>-unsatisfactory economic development.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>-funding sources available for rural development projects.</li> </ul>	<ul style="list-style-type: none"> <li>-growing development disparities between areas and regions of Romania;</li> </ul>

-no incentive for migrants to come home;  
-difficulties in accessing funding sources.

In a second step, we organised the detailed identified problems according to the three dimensions of sustainability:

Identified problems	Sustainability Requirements
<ul style="list-style-type: none"> <li>-low sustainability of farms and low level of production;</li> <li>-low efficiency and effectiveness of natural (therapeutical and mineral water, fishing, tourism, sand resources, non-ferrous deposits) and agricultural resources (fruits, vegetables, crops, livestock);</li> <li>-a high level of migration (over 90% of labour resources); at home are remained only aged people and children;</li> <li>-low level of education and qualification of labour force;</li> <li>-lack of processing units;</li> <li>-low level of funds accessing for local investments.</li> </ul>	<p><b>Economic sustainability</b></p> <ul style="list-style-type: none"> <li>-effective and efficient use of natural agricultural resources;</li> <li>-improvement and diversification of labour force qualification (i.e. ecological agriculture);</li> <li>-stimulation of agricultural production;</li> <li>-creating of processing units of natural and agricultural resources;</li> <li>-increasing of accesing the available funds for local investments.</li> </ul>
<ul style="list-style-type: none"> <li>-degraded, unproductive land;</li> <li>- poor management of protected areas;</li> <li>-poor management of fishing, hunting and forestry resources;</li> <li>-low level of ecological agriculture;</li> <li>-lack of environmental knowledge.</li> </ul>	<p><b>Environment sustainability</b></p> <ul style="list-style-type: none"> <li>-land use according to ecological rules;</li> <li>-improved management of protected areas and fishing, hunting and forestry resources;</li> <li>-education for environment.</li> </ul>
<ul style="list-style-type: none"> <li>-low level of associative life and lack of trust in partnerships;</li> <li>-low life expectancy;</li> <li>-low involvement of citizens in community decisions;</li> <li>-concern for life quality (luxurious houses), above the basic needs satisfaction, as an expression of self-actualization and of ancestral frustration;</li> <li>-increasing role of friends and social interaction outside the family;</li> <li>-attachment to the western values (work, discipline) only as migrants;</li> <li>-reduced concern for education and its duration.</li> </ul>	<p><b>Social sustainability</b></p> <ul style="list-style-type: none"> <li>-to stimulate the associative behaviour;</li> <li>-to stimulate the citizens' participation at solving the local community problems;</li> <li>-to stimulate a behaviour targeted to the well-being of the local community.</li> </ul>

In the third step, we considered appropriate the following strategic objectives for a sustainable development of Țara Oașului:

- General objective 1-Strenghtening the basis of economic sustainability;
  - 1.1. Attraction of investment to capitalize the natural resources;
  - 1.2. Capitalization of land and introduction into the economic circulation;
  - 1.3.Stimulation of rural business, agricultural and non-agricultural (eco-tourism, traditional crafts and culture);
  - 1.4. Stimulation of processing natural and agricultural resources (chains of supply, production/processing and selling);
  - 1.5. Diversification of labour force qualifications;
  - 1.6. Accessing the available funds for local development (Regional Operational Programme, National Programme for Rural Development, Local Action Grup).
- General objective 2 -Developing the social capital in the area:
  - 2.1.Development of local social cohesion around the community identity and cultural traditions;
  - 2.2. Introducing mechanisms of citizens' democratic involvement in local decisions;
  - 2.2. Development of social economy and stimulation of social entrepreneurship;
  - 2.3. Support for cooperation and association between farmers;
  - 2.4. Increasing role of LAG Țara Oașului.
- General objective 3 -Environmental sustainability:

- 2.1. Severe monitoring of protected areas (e.g. Natura 2000);
- 2.2. Severe monitoring of forestry resources (wood) and solving the problems related to the forest fund;
- 2.3. Creating new private hunting funds-better managed;
- 2.4. Creating private fishing units;
- 2.5. Educational activities for environment (young and adult people).

#### 4. Conclusions

The proposed strategic objectives are designed in a frame of an endogenous development model, based on the community resources and the local capacity to control, to internalize the external information and to take beneficial decision for the community development.

We envisage for Țara Oașului a development model based on building the social capacity of economic, social actors and local authorities, by the means of the following capacities: sound management of local resources (labour force, land, fishery and forestry and agriculture); valorization of existing local resources: land, touristical resources, local identity, culture and traditions; control of transformation process at local level and control of social innovation.

In order to design the sustainable development strategy of Țara Oașului further and detailed discussions with local authorities and a large public consultation with all local stakeholders are needed.

#### 5. Acknowledgement

*This paper was supported by the project “Natural resources and sustainable development of Oaș area, county of Satu Mare, funded by UEFISCDI (Executive Agency for Higher Education, Research, Development and Innovation Funding - National Plan for Research, Development and Innovation 2007-2014, NP II, Human Resources Program, Subprogram “Young research teams”, contract no. 332/1.10.2015 (PN II-RU-TE-2014-4-1552).*

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