

**UNIVERSITY OF AGRICULTURAL SCIENCE AND VETERINARY  
MEDICINE „ION IONESCU DE LA BRAD” IAȘI  
FACULTY OF AGRICULTURE  
DOCTORAL DOMAIN: AGRONOMY  
SPECIALIZATION: MANAGEMENT AND MARKETING IN AGRICULTURE**

**PhDs,**

**EC. CLAUDIA SAULEA (IORDACHE)**

# **DOCTORAL THESIS**

**SCIENTIFIC SUPERVISOR,  
PhD. Univ. Prof. ION - VALERIU CIUREA**

**IAȘI, 2011**

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# **DOCTORAL THESIS**

**STUDIES REGARDING THE STRATEGIES FOR  
SUSTAINABLE RURAL DEVELOPMENT IN THE  
MOUNTAIN AREA OF NEAMȚ COUNTY**

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## ABSTRACT

The Romanian rural area is the predominant component of the geographic area of Romania, representing over 90% of its geographical scope. For these reasons, the economic and social strategies and policies, at national level, should include in an objective way and mainly the rural areas and with all the components that define it.

In indicating the rural policies we should start from the idea that agriculture, as the main economic sector of the rural areas, does not only produce goods and profits but also it is a way of life, and the rural area is not only a place of production, but at the same time, a social and cultural space, with complex implications on the overall status of a nation.

The mountainous zone of Eastern Carpathians and especially the mountainous area of Neamț county has many features of rurality insufficiently researched.

The neglect of this area in the last half of the twentieth century and the profound economic and social transformations that took place after 1990, have imposed studies designed to economically reinvigorate the area and to ensure a sustainable development.

The research undertaken, by the doctoral thesis, *is mainly to underlie the development of certain strategies meant to ensure the sustainable rural mountainous area of the Neamț County.*

The *goals* had in view by the research topic are as follows:

a) Theoretical foundation of the concepts of sustainable rural development and rural area that combines the specificity of the Romanian rural areas with the criteria that define rural area in the countries belonging to the European Union.

b) Presentation of the research in Romania and worldwide that relate to the strategies of sustainable rural development.

c) Characterization of the natural and social framework of the Neamț County.

d) Diagnostic study of the agriculture of the Neamț County.

e) Analysis of resources and factors of the rural development of the county.

f) Make a case study on the strategy of sustainable rural development in Vânători – Neamț commune.

The thesis is divided into seven chapters, plus a set of 160 bibliographic titles.

The **first chapter** is entitled "*Theoretical aspects and state of research on rural areas, rural development and strategies of sustainable rural development.*"

In the first part we analyzed the various definitions of rural areas, showing the differences in the interpretation of this concept, and also the one defined by Recommendation 1296/1996 of the Council of Europe on the "*European Charter of the rural area*" and the definition accepted by Romania. The author considers that the historical differences between Western Europe and Romania on rural development determine that Romania will not include in the rural areas the smaller towns, but which, by the number of inhabitants and specific activities are not a characteristic of Romanian rural areas. Also in this part it is presented the structure of the rural area where there are described the peculiarities, the various types of Romanian rural space according to the geographical location and position from the urban agglomerations.

The second part of the chapter is reserved for the concept of rural development. There are presented the theoretical foundations of rural development, the peculiarities of this development, and principles for governing. The chapter ends with the issue of sustainable development, starting with the conceptual aspects of sustainable development and ending with the conditions and requirements for achieving sustainable rural development.

**Chapter II** has as content "*The stage of research on rural area and sustainable rural development.*"

At the beginning it is presented the main purpose of the research, represented by the doctoral thesis, as well as the specific objectives followed.

We considered appropriate to establish a coherent methodology for the analysis of rural area, i.e. defining the specific terminology and of some indicators that quantify the status, characteristics and social-economic potential. There were established the representative indicators which reflect the status, characteristics and socio-economic potential of the rural localities.

For the study of the rural area of the mountainous zone of Neamț County three research methods with a specific character were used: dynamic, deductive and quantitative economic analysis, SWOT analysis and socio-economic survey or participatory research that involves gathering information from the territory, using as research technique, the questionnaire. As a source of information we used documents with statistical character, available at the County Department of Statistic and DADR Neamț, bulletins of certain scientific papers, various books and treaties in the field of the thesis, as well as some data available at the municipalities in the area. Much of the information was obtained by direct investigations on the ground. For data processing, the following procedures were used: comparison, analysis of specific indicators and

indices, monograph, graphic process. The research focused on aspects of Neamț county and its mountainous area, and the case study was located at the level of Vânători-Neamț commune.

In **Chapter III**, entitled "*Characterization of the natural and social framework of Neamț County*", in the first part there are presented aspects regarding the geographical location, boundary length, area and administrative organization.

The Neamț County is located in the central-eastern part of Romania occupying a part of the eastern mountainside of the Eastern Carpathians. The boundary length is 543 km and the total area is 589,612 ha, of which almost half is occupied by forests. The following describes the aspects regarding the natural character. As for the relief, it is arranged in steps, with heights decreasing from west to east - 1900 m Toaca peak of Ceahlău Mountain and 180 m in Siret Valley.

The hydrographical network of the county is 90% allochthonous, the rivers that have their sources within that territory holding a small weight in the overall volume of flow in relation to the flow of major rivers (Siret, Moldova, Bistrița).

The climate is temperate continental with specific features in the eastern part of the country. The annual average temperatures increase gradually from west to east, from the mountains zone to the sub-Carpathian hills and the plateau region with average between 7°C – 11° C. The rainfall has variable averages: 700 mm in Ceahlău and 529 mm in Roman.

The soils are part of the typical series of the mountainous province (brown podzol). In the hilly areas, on the small areas levigated chernozems appear and in meadow the alluvial soils and silt.

The vegetation belongs mostly to the forest floor and in a lesser extent to the forest steppe entering the Siret valley. In the final part of the chapter the social framework is presented.

The total population of the county (at 01/01/2010) was of 563,392 inhabitants, of which 49.2% men and 50.8% women. In the period 2002-2009 there has been a process of population decline by 0.19%, which accelerated in the last year. The highest trend of decrease in the number of inhabitants was recorded in rural areas with 1,223 people, mainly due to the emigration in the countries of Western Europe.

**Chapter IV** covers "*The diagnostic study of agriculture in the Neamț County.*"

The chapter includes the analysis of agricultural land in the county and communes, the organization of agriculture, areas cultivated with the main crops, on the county and type of units, livestock development.

Of the total area of the county, agricultural area has 282,590 ha (47.9%). The pastures and grasslands together occupy 39% of the surface. It is worth mentioning that although the county has favourable conditions, fruit tree growing is poorly represented (0.6% of the

agricultural area). The structure of the cultures shows that cereals for grain occupy an area of 62% of the cultivated area. Two thirds of this area is full of maize. The remaining areas are mostly occupied with forage crops, potatoes and vegetables. As for the livestock, in the county more than 80,000 cattle heads are reared: over 120,000 pig heads, almost 208,000 sheep and more than 1.3 million birds. The analysis over a period of eight years (2001-2009) shows that, at all species, increases have been recorded in herds, higher in goats (194.8%) and birds (21.8%).

From a structural point of view, the size of communes varies from over 20,000 hectares (Tarcău and Borca) to 2,014 ha – Săvinești commune. There is no correspondence between the size of the commune and the size of the farmland. The most telling example is Tarcău commune which has the largest area (39,899 ha), but where the agricultural area is only 1,851 ha. The agriculture of Neamț County is poorly organized. In the field of agriculture of the county there are 226 companies, divided into four types: plant crop, stock rearing, joint activities, service activities and other activities. Of these companies, the weight is held by the companies dealing with plant crops (55.3%), followed by companies of stock rearing (17.3%).

**Chapter V**, important in the economy of the PhD thesis, has as content the "*Resources and factors of rural development in mountainous areas of the Neamț county*".

The chapter has an analytical character and deals with aspects of administrative structure of the mountainous zone, land, typology of mountain settlements, population, and infrastructure. The criteria, on which the diagnosis of the rural area was made, were: *administrative* (number, size and history of communes); *physical-geographical* (forms of relief, natural protected areas, natural risk factors), *demographic* (number, diversity, evolution, population growth, its renewal and aging), *economic* (potential for agriculture, forestry, tourism, industry, employment of population, etc.), *housing* (area of the houses, materials used, age, equipment), *technical equipment of localities* (water networks, sewage, gas, electricity, telephone and internet, roads), *social* (health, education, communication), *environmental* (water, air, soil, forests).

The mountainous area includes of Neamț County 21 communes. It has an area of 300,725 hectares, representing half of the county. The forests occupy 69% of this area. Territorially, large areas of forests are within the communes Tarcău – 37,399 ha; Pîpirig – 14,619 ha; Borca – 13,880 ha and Tazlău – 13,616 ha. Being a specific mountain area, the arable land occupies a small area – 15.5% of the agricultural area. The weight is held by the natural grasslands – 84%. As for the typology of villages, there are some with “*scattered*” character – Agapia, Ceahlău, Hangu, mostly being “*spread*” along the valleys: Pîpirig, Borca, Bicazu Ardelean, Tarcău, Tașca etc.

The population of the studied area is of 105,061 persons, of which 50.1% men and 49.9% women. The employed population is of 39,485 persons, of which 53.9% is employed in agriculture.

Regarding the infrastructure, it is characterized by poorly maintained roads, with few exceptions, all settlements are electrified, have television and the Internet is expanding. School and health utilities have suffered a breakdown due to the lack of budgetary funds, plus the shortage of qualified personnel. There is a migration of youth to centres that provide an appropriate education level. The commercial network has seen a spectacular development, to which a revival of craft activities is added (wood and dairy products processing and leather).

**Chapter VI** – “*Case study on strategy of sustainable rural development in Vânători Commune, Neamț County*” holds the weight in structure of the paper as importance and size.

The first part presents the history of the locality and the geographical position.

The relief of the commune is varied, including mountains with heights of 1000 m and many hills fragmented by streams.

From an economic perspective, Vânători-Neamț commune has a more developed than other rural settlements in the area. In the commune there are several economic agents that deal with wood working (lumber, cooperage), units of sewing and knitting, rubber processing units, metal garments, and flower cultivation. To supplement the incomes they started to develop tourism and agritourism. One advantage is that the commune is crossed by DN15 B - Târgu Neamț - Poiana Largului and several county roads that lead to the monasteries in the area.

The village has electricity networks and partly water and gas networks.

The main activity of the population (8,713 persons in 2008), grouped in 3,287 households, is agriculture. The village has 4,185 ha of agricultural land, mostly operated by individual farms. There are 10 commercial or associative farms that work 1,704.8 ha.

The arable land holds 33.9% of area, the difference being represented by the natural grasslands. The orchards have a small area - 41 ha. At the commune level there are 2,094 cattle heads, 4,320 sheep heads, 265 horse heads, 1,301 pig heads and over 11,500 poultry. It can be appreciated that although the commune has large areas of grasslands, the livestock development is low (42.5 UVM/100 ha - cattle and only 15.5 UVM/100 ha - sheep).

The arable land is covered with crops of maize, fodder and potatoes.

Of the total agricultural area, 5,710 hectares suffer from different degradation processes (erosion – 28.1%; acidification – 29.5%; landslides – 3.1%, loss of nutrients – 34.6%).

The tourist potential of the village is high, due to the proximity to numerous historical and cultural objectives: Cetatea Neamțului, Monasteries of Neamț, Sihăstria, Secu, plus M. Sadoveanu Memorial House, the Museum of Ethnography, Reservation of bison etc.

In the commune there are 7 agri-tourist guest houses with over 100 places. During the period 2007-2009 was a spectacular increase in the number of tourists (+ 272%).

The number of households is 2,667, with a positive trend on the construction of houses and increase of the habitable area.

At the commune level, a network of water distribution (22 km) and a gas pipeline with an annual capacity of 103,000 m<sup>3</sup> function. Unlike other localities, in 2007-2009 there was an increase in the population at the end of 2009 being registered 8,752 inhabitants.

Concerning is the decline of births by 25% and increase of mortality by 28.6%. On this line it can be noticed the reduction of the number of preschool and schoolchildren.

The SWOT analysis made on various components of the rural area of Vânători-Neamț commune highlighted the following issues:

For *agriculture* we found as "*weaknesses*" the existence of factors of soil degradation, lack of modern technology, unacquaintance with effects of polluting factors on human health. Some opportunities were identified: the need to associate for livestock activities and the possibility of accessing European funds for agricultural infrastructure development.

In the case of *forestry* we noted as "*weaknesses*" the anthrop degradation caused by air and water pollution and waste disposal. There are many "*strengths*" which refer to the existence of protected areas, the structure of arboreal vegetation and the existence of a natural environment favourable for resting and recreation.

The SWOT analysis was made for other components: hydrology, air quality, household constructions and natural and historical monuments. For each there were established "*strengths*", "*weaknesses*", "*opportunities*" and "*threats*."

In the final part of the chapter, the strategies were established for developing agriculture, forestry, water and air resources, household utilities, household constructions and religious monuments. For each type of strategy there were established strategic objectives, financing sources, documentation required and expected results.

In developing the strategic lines there were taken into account some existing elements in the administration departments of the commune and of the county, especially the data obtained from the questionnaire survey conducted among inhabitants. Among the priorities of their inhabitants for improving their quality of life, we mention: development of the action groups within the commune for its development; implementation of the sewerage system and extension of water and natural gas; exploitation in greater extent of the cultural and spiritual traditions; access to a larger volume of EU funds, more involvement of the commune leaders in solving problems the community has to deal with.

The thesis concludes with a chapter that includes the conclusions that result from the research findings and a set of recommendations which synthesizes the strategic options aimed at achieving sustainable rural development of the mountain area of the Neamț County.