

# **BEYOND THE FUNCTION OF FOOD AND FIBER PRODUCTION LIES THE MULTIFUNCTIONAL AGRICULTURE: A CASE STUDY OF BERAT DISTRICT, ALBANIA**

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## **Abstract**

*Sustainable rural development suggests potential cooperative farms that combines local economies, and implies a reconfiguration of the relationship between society and nature. This vision of agriculture is completely different from the agro-industrial model. While productive rural development vision is based on continuous specialization and division of agriculture from other activities in rural areas. The importance of multifunctionality of agriculture is growing. The main argument behind multifunctionality is that agricultural production and thus, the whole agricultural sector has multiple roles, not just to produce food and fiber, but also to provide several non market commodities. After defining the concept, the study case illustrate problem in delivery of production outputs. Based on Analytical Hierarchy Process (AHP), it is shown that farmer's behavior will depend on personal characteristics as well as on alternatives of production output. In Albania multifunctional agriculture at the farm level will contribute to the modeling of sustainable rural development and re-integrate agriculture in both urban and rural societies through a range of integrated multidimensional activities.*

*Keywords: Multifunctional Agriculture, Sustainable Development, Analytical Hierarchy Process, Production Output, Albania*

## INTRODUCTION

The economic situation in the Berat Region, Albania is below the national average. Region is considered as one of the less developed regions and the relative difficulties that come from positioning inside the country. Berat is primarily an agricultural region and oriented towards trade and tourism. After land privatization (Law 7501), shows that the growth of this sector is quite slow, as a result of boundary-limited surface to the farm, the high level of fragmentation, the parcel size etc. Here are some indicators:

Table1: Data on Land Fund

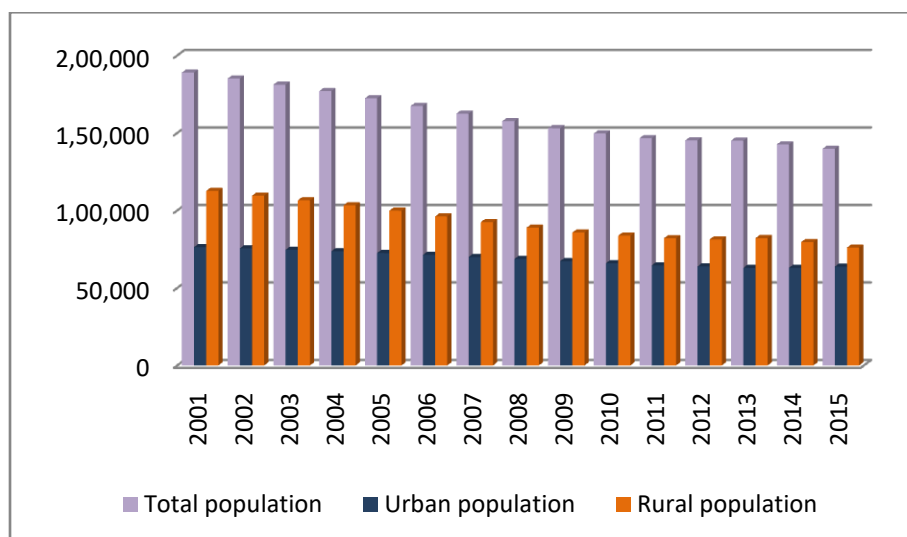
Disticts/ Prefecture	No. of Village	The total surface	Land surface agricultural	Land Divided by Farmers	The average size of plots (ha)
Berat	243	179793	52919	40577	0.27

Source: INSTAT, 2015

Increasingly, the population of these areas need continued support from sources outside the farm and to this end sought new strategies to develop ways of life.

The district of Berat has a population of 139 815 inhabitants, and it ranks eighth in the total number of districts for population. Currently 54.4% of inhabitants live in rural areas and 45.6% of inhabitants live in urban areas. In recent years, the population of district has declined by about 27%. The biggest decrease in population has been in rural areas. The number of inhabitants in the region has declined as a result of rural migration.

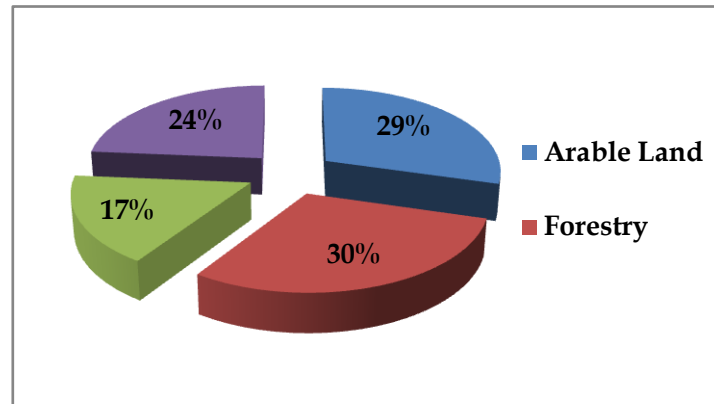
Figure 1: Indicators of Population in Berat Region



Source: INSTAT, 2016

The Berat Region is rich in forests with an area of 53 833 ha, having been part of a national policy to reduce soil erosion and the conservation of biodiversity. At the same time in the area a significant place is occupied by meadows and pastures with about 17% of the land fund. Current distributions of these resources are presented in the chart below.

Chart 1: Distribution of the Land Fund



Source: INSTAT, 2016

On the other hand, the majority of land who used by farmers is agricultural land. Although, the olive grove is an important activity in the area it occupies only 21.4% of the total agricultural land. Orchard and vineyards occupy a very small surface area although the terrain is mostly hilly or mountainous.

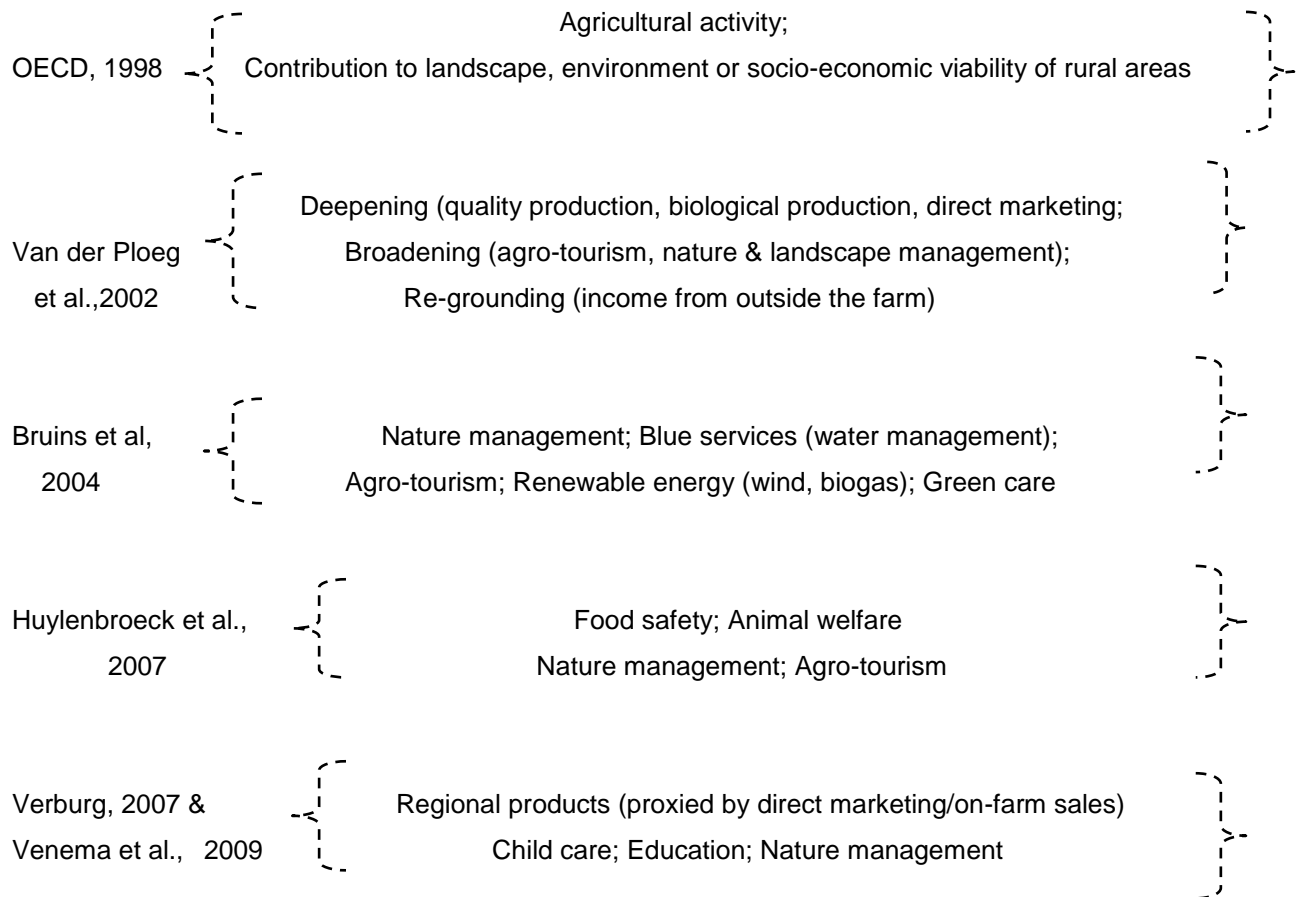
## LITERATURE REVIEW

Multifunctionality has become a political slogan in the world of agriculture and very different meanings have been attributed to it. Food safety, animal welfare, cultural and historical heritage values, environmental quality, landscape, biodiversity and rural development are just some of the results allegedly pertaining to the multifunctionality of the agricultural sector. The implications of the policies pursued by multifunctionality vary greatly from one country to another, reflecting, not surprisingly, the policy stance to support agriculture and protection.

Multifunctionality as a concept with activity oriented and in a narrower sense divides some common characteristics with farm diversification. Both are strongly linked to agriculture and therefore they refer to farm activities; furthermore, both are aimed at increasing rural employment and improving the livelihoods of farmers. Moreover, while the diversification of farms refers to agricultural activities other than traditional multifunctionality it includes traditional agriculture. The multifunctional model of the nature of agricultural policy includes both the international and regional level, combined with its engagement in environmental and public

services. To illustrate the rich diversity of the definition of the concept of "multifunctional agriculture" figure 2 provides us with a review of key elements and multifunctional agriculture activities that different authors have included in their interpretations regarding this concept.

Figure 2: Crucial Elements in the Various Definitions of Multifunctional Agriculture



## STUDY METHOD

The main objective will be to analyze the impact that has multifunctional agriculture in Berat district. In particular it will focus on contribution of multifunctional farms in developing rural areas. It is important to understand what drives the development of multifunctionality at level of family farms.

*Economic Contribution*  $\implies$  multifunctional agriculture affects the improvement of farm incomes

*Social contribution*  $\implies$  multifunctional agriculture influences at community /rural survival

One of the goals of this research is to present a model or method to provide usability scores for comparative evaluation. The AHP provides a means of decomposing the problems into a hierarchy of sub-problems which can more easily be comprehended and subjectively evaluated.

The subjective evaluations are converted into numerical values and processed to rank each alternative on a numerical scale. The methodology of the AHP can be explained in following steps:

The first step: The problem is decomposed into a hierarchy of goal, criteria, sub-criteria and alternatives.

The second step: Pairwise comparison of alternatives based on a qualitative scale.

Table 2: The AHP Pairwise Comparison Scale

Degree of importance (w)	Definition
1	Equal importance
3	Moderate importance
5	Strong importance
7	Demonstrated importance
9	Extreme importance
2,4,6,8	Intermediate values

The third step: The pairwise comparisons are organized into a square matrix.

The fourth step: The comparison of matrix gives the relative importance of the various criteria.

The fifth step: Evaluated the consistency of the matrix

$$CI = (\lambda_{max} - n) / (n - 1)$$

Finally: The rating of each alternative is multiplied by the weights of the sub-criteria and aggregated to get local ratings with respect to each criterion

## ANALYSIS AND RESULTS

Data used in this analysis were obtained from questionnaires realized in Berat district. Our study was structured in two phases.

The first phase consists in the interviews with specialist of agriculture in the area. These interviews were realized in order to identify farmers' opinions, attitudes and objectives they usually consider in their farming management. The obtained information is used to design a structured questionnaire carried out in the second quantitative phase. In this way, first we identified the agricultural objectives. The results of this part in our research allow us to determine the five alternatives of production output that includes:

### Production Output

- Farm Income (A)
- Prices of Products (B)
- Subsidization (C)

- Link to other sectors of the economy (D)
- The quantity sold of agricultural products (E)
- Improving the quality of agricultural products (F)

Supporting multifunctional agriculture (production output) leads to increased income and the ability to increase farm activity. We can see from the comparative matrix

	A	B	C	D	E	F	Vektori eigen
A	1	1/2	3	4	4	6	0.27373
B	2	1	4	5	5	7	0.40171
C	1/3	1/4	1	2	2	4	0.12786
D	1/4	1/5	1/2	1	1	3	0.0798
E	1/4	1/5	1/2	1	1	3	0.0798
F	1/6	1/7	1/4	1/3	1/3	1	0.03711

Consistency Index  $CI = \frac{\lambda_{max} - n}{n-1}$  and consistency is acceptable if  $CI < 10\%$ . Random

Consistency Index (RI) is 1.24, and the size of comparison matrix is  $n = 6$ , thus the  $\lambda_{max}$  is:

$$\begin{aligned}
 \lambda_{max} &= 48/12 (0.27373) + 321/140 (0.40171) + 37/4 (0.12786) + 40/3 (0.0798) \\
 &\quad + 40/3 (0.0798) + 24 (0.03711) \\
 &= 1.09492 + 0.92105 + 1.18267 + 1.06395 + 1.06395 + 0.89066 \\
 &= 6.21724
 \end{aligned}$$

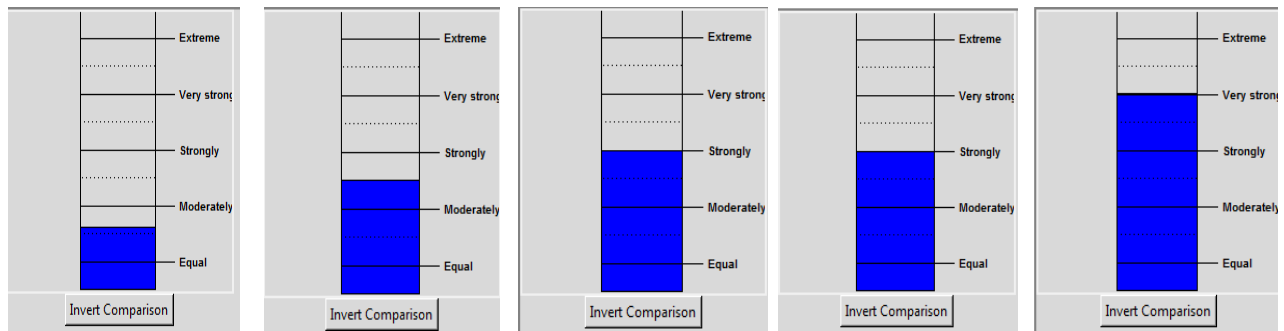
$$CI = \frac{\lambda_{max} - n}{n-1} = \frac{6.21724 - 6}{6-1} = 0.0434 \text{ (is acceptable)}$$

If the value of Consistency Ratio is smaller or equal to 10%, the inconsistency is acceptable.

$$CR = \frac{CI}{RI} = \frac{0.0434}{1.24} = 3.5\% < 10\% \text{ (is quite consistent)}$$

From vector eigen, eigen values we clearly see where it seems clear that for farmers the most important is to have stable prices for products followed by the desire to have an increase in revenue. Relevance to other alternatives reflected in the graphs below

## Prices of Products has



very slight  
importance by  
farm income

a moderate  
importance by  
subsidization

demonstrated  
importance by link  
to other sectors of  
the economy

demonstrated  
importance by  
the quantity sold  
of agricultural  
products

absolute  
importance by  
improving the  
quality of  
agricultural  
products

## DISCUSSIONS AND CONCLUSIONS

Most manufacturing activities have very low productivity and do not generate sufficient income, to foster growth and strong development. The agricultural model is still very traditional and largely meets local needs based on lifestyle. After the privatization of land and its fragmentation, this sector is not growing at the rate required, working with low profits. The linkage of farmers to the processing industry is lacking or insufficient. The current efforts are spontaneous and the region still does not find its position in the production and marketing of agricultural products. There is little support from government programs for the collection of agricultural and livestock products, which will help regional development.

The focus is on expanding the productive branches of the regional economy, through the improvement and expansion of existing sectors and seeking development of new activities.

The ability of agriculture to provide a greater range of services to society through the evaluation of a large number of functions it offers can also affect farmers adapting to new farming patterns such as multifunctional agriculture. For many people, the realization of many activities is preferred for example the desire to live in the countryside, having a farm and at the same time having a job in the city and as a result it will provide you and more income. In this way, many farming regions can develop new and successful farm activities by mixing the existing environment and communication assets with marketing them in terms of expanding markets according to the needs of society.

Sustainable agriculture (multifunctional, namely a policy on product prices) leads to increased revenues and the opportunity to increase activity on farms. This would provide us with increased production, and this increase will come as a result of increasing the farmer's skills. The policy that would lead us to the provision of quality and abundant food products would also bring and increase exports, and above all, we will have a safe food.

However, the discussion is narrow because only one output of multifunctional agriculture is taken. Around this output, alternatives to the development of agricultural products may be more numerous. We are focused on those elements that come as a result of the theory and are adapted to the place that is studied.

### SCOPE FOR FURTHER RESEARCH

In the future our scope, related to this topic, is the examination of other outputs, such as social, environmental or technical output. Closely, better policy-building can be studied by using the above-mentioned alternatives as instruments for building these policies. It can be important and discussion of these results with stakeholders to see if there may be other suggestions for alternatives undertaken.

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