

Assessing Farm's Performance by Farm Typology in Albania

Assoc. Prof. Maksim Meço

Assoc. Prof. Arif Murrja

PhD. Gentian Mehmeti

PhD. Ilir Tomorri

Assoc. Prof Ina Pagria

Economy and Agribusiness Faculty, Agricultural University of Tirana, Albania

Doi:10.5901/ajis.2016.v5n3s1p288

Abstract

During the economic transition the agricultural sector of Albania has changed significantly. This process continues parallel with global trends of periods of relative consolidation. The diversity of farm types is increasing in terms of both their production structure and production organization. Even though the farms are still small in terms of the average size, there is an increasing tendency of fallow land, due to emigration and migration of the rural population. This is mainly due to traditions, because households composed of several families use greater parts of farm land for subsistence. Farm size and fragmentation - Albania has a very large number of farms per unit surface area compared to other countries in the EU. The size variation differs according to regions: In average it is as follows: -higher in Western and South-Eastern Albania - in Fier 1.64 ha / farm; in Korçë 1.48. - smaller in Northern and North-Eastern regions -in Kukes 0.62 ha / farm. According to official statistics the size of farm plots increased from 0.20 ha plots in 2000 to 0.26 ha in 2011; which is equal to nearly 30% in a decade. But the total average size of field plots, in general is still too small to justify the intensification of production by replacing hands with machines. The crop pattern and crop rotation schemes significantly affect farm efficiency; it is dominated by wheat, corn, hay, vegetables, beans, potatoes, and orchards; the latter has a significant trend in favour of nut plants; while the cultivation of cotton, sugar beet, tobacco, rice, rape-seed, etc. is almost at a standstill in Albania. These changes result from: -farmers' freedom in decision making according to market signals; -inefficient state support systems aiming at revitalising promising markets, which also led to: *a destruction of the processing industries for tobacco, cotton, rice, vegetable oils, sugar; *the loss of traditional export markets; *misallocation of financial resources. The transition from a central, planned economy to a market economy led to a general production fall in Albania, including agriculture. The specific contribution of agriculture to the GDP went down from 54.6 % in 1995 to 28.1 % in 2000, and has stabilised at this level, while the sector growth is estimated by about 3.6% per annum. Nearly 48.7% of the population in 2012 lives in rural areas where agriculture is the main source for both subsistence and income. In general, the cropping area for annual cultures decreased, except for wheat, vegetables and potatoes, while the area for forage as well as fruit trees increased. Actually, half of the cultivated cropping areas consist of fodder crops, which constitute also the high share of subsistence farming. In general, livestock is the most important agricultural sector in Albania. Its production value reached ALL 180,072 million, which equals to about Euro 1.3 bn. Animal products are a major component of self-consumption. Traditionally milk and its products in Albania are primary products also due to favourable natural conditions. Cattle are dominant in the low lands, while on the mountainous area sheep and goats. About 54.3% of the animal husbandry output is for subsistence. The dairy sector is particularly undergoing a continuous modernisation process. Due to the high number of investments being implemented along the dairy value chain, there is a very good product range in the markets, but there is also the risk of over-capacities. This may lead to a price war: increasing milk prices for the producers but decreasing consumer prices for the processors. There seems to be a strong need for collaboration and co-operation in the sector in order to meet / keep food safety standards. This might become a major subject for Albanian Government in the on-going process of becoming a EU member. Annual average milk yield per cow is approximately 2600 l. These tendencies in the ruminant livestock affected meat production; these categories are stagnating while pork and poultry production started to increase during the last ten years. A niche market for Albanian farmers is lamb market on the eve of religious holidays, and for export. Also due to political influence orchards are increasing in terms of size and productivity. The output growth over the decade 2000 to 2010 is estimated about 234%. Despite this significant progress, it is estimated that the surface of vineyards and pergola is still far from that of 1990s, and because of this, the potential for export markets is not utilised. The Albanian export -import balance for agro-food commodities is negative; 1/9.5. In general, the sector's competitiveness is low due to the lack of sufficient knowledge; e.g. as how to use up-to-date inputs or establish input supply and marketing co-operatives. The production systems are preconditioned by factors such as 1) Traditions, 2) Family demands, and 3.) use of surpluses and seasonal produce to generate additional cash income. Because of this, there is a large overhanging of unemployed labour force. Within the production structure on arable land, the dominating crop is winter wheat followed by corn. Among the higher value cash crops, water melons, beans and potatoes have the largest shares. Disadvantageous as to several aspects, is the almost complete disappearance of technical cultures of crop rotation over the last 20 years; e.g. sunflower or tobacco. Unfortunately; the statistical database is weak and partly inconsistent for getting realistic information about yields in dt/ ha or profitability estimates. The decline in the acreage of cash crops is the result of the expansion of food crops.

1. Introduction

Organisational and administrative aspects of farming in Albania: The country is divided into 12 counties, which consist of 36 districts composed of 65 municipalities and 309 communes; what seems a very expensive and not very dynamic administration structure.

Subject of special emphasis of this study are the districts of:

- Berat; consists of two municipalities and 10 communes over 122 villages with a population of 141,944 inhabitants on 179,793 ha surface

In the following, main emphasis is put on Berat region, according to the OECD classification, it is part of the intermediate region, which stands for 45.8% of territory and 41.2% of the whole population in Albania.

The region is traversed by two main rivers, Osumi River and the Seman River, and crossed by higher mountains. Furthermore, one of them has access to national roads. The climate is typically Mediterranean: annual average temperature is 15.9 degrees C. and no real periods of frosts; but with un-typical annual precipitation of 928 mm per annum, with its peak in winter. Of the surface, less than 1/3 or 52,919 ha is agricultural land. The migration in this county is above average, hence the average age of the population is much higher compared to Albania's average.

The rural and urban infrastructure suffers from not being connected to national main roads, and having almost no sub- road system. These lead to the fact that Berati is not one of the regions economically performing above country's average and poverty is significantly higher.

In Berati region, almost all kinds of plants, typical for Albania can be grown. It also raises all kinds of livestock typical for Albania. The agricultural production structure, output, performance and other indicators are almost like the average of Albania. A positive development is the increase of the area planted under shelters. Berati has a long tradition in the production of olives and figs; increased by 50% in recent years.

In terms of income, farmers in the region generate less from non-agriculture activities than from agriculture ones. Hence, one of the reasons may be the lower education level of people in Berat. The use of inputs, equipment, as well as other important production factors and indicators, do not significantly vary compared to the region before; with the exception that regions seem to own a greater number of tractors. Also, a difference as to other regions is that income from pensions is the main source of non-agriculture activity for the majority of farms of all groups.

Compared to the region in the past, the contribution of sheep and goats to the overall milk production is significantly higher, which might also be seen as a result of the overage population? Even if it is so, and farm grouping is hardly significant, the region seems to have an advantage in putting more emphasis on animal husbandry generally, and on milk production from both cattle and sheep, particularly.

Compared to the region in the past, all groups of farms in Berat have a much higher rate of self-re-financing agriculture by agricultural income sources of households/families; again, it may be a result of the higher average age of the population. Hence, the subsistence level is higher. This affects farm viability negatively. Thus, not surprisingly the poverty level is high and makes people more dependent on farm income.

2. Analysis of the Regional Farm Typology

The main source of information for our study was:

- survey conducted with farmers of Berat district, to estimate and value rigorously according to the methodology of sample selection (276 questionnaires)
- data provided through official sources (District Statistics, INSTAT, MoAFCP)
- consultation with fields expert
- similar studies conducted in this field

Farm typology is determined based on the following indicators:

- % of sold production / total production.
- % of watered surface / total surface
- % of livestock production / total livestock production
- % of agricultural production / total agricultural production
- % of orchards production / total agricultural production
- Costs / production
- % of cropped surface/ total area
- Income outside the farm / Total income

- ALL AWU/000 produced

Based on the above indicators are identified these type of cluster for Berat district.

1. Poly-culture for market
2. Livestock
3. Leisure farms
4. Fruit trees, diversified farms
5. Specialist Fruit trees farms
6. Arable crop farm
7. Self Sufficiency

The following presentation gives synthetically the main characteristics of the typologies

2.1 Family member structure

The results of the study show that the family farm in Berati region consists on average of four to five people, and employment issues are in line with the national ones. Family structure in Berati region appears to be quite the same among clusters. When it comes to the number of people in working age, the overall picture varies from a minimum of 4.6 in Arable crop farms to 4.0 in Self-sufficiency farms. Members of family farms working on the farm vary from 3.1 in Poly culture farms to a minimum of 2.3 in Leisure farms. Poly culture farms are more labour intensive compared to other clusters in Berati case. The overall situation shown in the Figure 30 below represents the fact that the farm family is relatively highly populated while the number of people who are engaged in agricultural activities is relatively low.

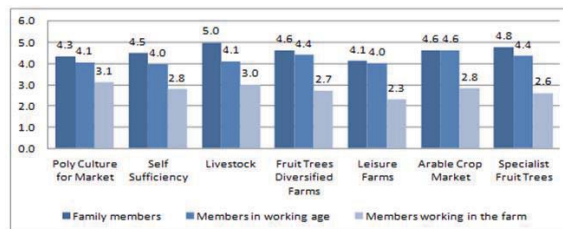


Figure 1. Family farm structure

However, for various farm types the situation is not the same. Taking into consideration the farm number within each farm typology, and problems associated to each of them regarding efficiencies of activities, it can be concluded that on farm activities do not offer the potential for increasing the level of employment. This is why working-age members of farm families are forced to look for other employment alternatives.

2.2 Farms according to labour force

There is a major problem related to labour force and employment in the agriculture sector in Albania. Statistics show that on national level, agriculture employs over 50% of working-age and contributes to about 17.6% in GDP, but efficiency of agriculture production is very low (efficiency of agricultural sector is about 14 times lower compared to services sector or about 4 times lower compared to industry sector (INSTAT, 2012). Berati does not make any exception from this trend regarding the working force for each typology type.

Table 1. Farms distribution according workforce

No	Clusters	Number of Farms with			
		<=1	>1 and <=2	>2 and <=3	>3
1	Poly Culture for Market	7	45	40	7
2	Self Sufficiency	32	44	21	3
3	Livestock	4	53	26	17
4	Fruit Trees Diversified Farms	54	34	10	2
5	Leisure Farms	71	17	4	8
6	Arable Crop Market	6	61	23	10
7	Specialist Fruit Trees	38	46	15	0

Referring to the table, 85% from the Poly Culture for Market farm type, 45% from the Self Sufficiency farm type, 79% from the Livestock farms, 44% from the Fruit Trees Diversified Farms, 84% from the Arable Crop Market typology, do have 2-3 working force, and so on.

2.3 Farm size structure and number of plots per farm

The average farm size for Berati region is about 1.4 ha with a distribution among clusters as shown in Figure 31.

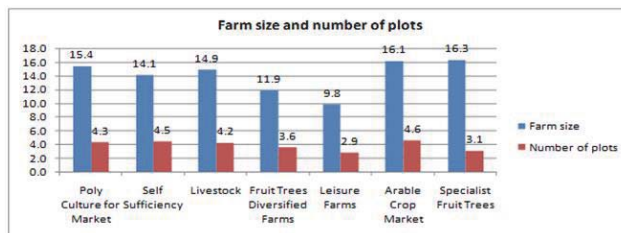


Figure 2. Average farm size (dyn) (acres) and average number of plots per farm

Hence, the variation between different typologies is very large. According to survey, the data show that farms belonging to Specialist Fruit Trees farm type, are the largest (almost 1.63 ha), followed by the Arable crops for Market with around 1.61 ha, Poly-culture for Market with 1.54 ha, and so on. Leisure Farms represent the smallest one, with 0.98 ha/farm.

The limited average farm size and the number of plots by farm type is one of the most important problems of Berati agriculture sector. The level of fragmentation, which is important, is present in all farm types of the region. Arable crop for market farm type is the more fragmented one, 16.1 dyn acres/farm and 4.6 plots/farm.

Taking account of the small and too fragmented farm, in order to increase production and productivity, there are two main problems to be taken into consideration: a) farm orientation towards intensive activities and b) Input support.

3. Analysis of Farm's Economic Performance - Case of Berati Region

Farms in Berati region continue to be over-populated in terms of household members and continue to be over-populated in terms of labour forces. The main characteristic of the agricultural farms in this Region is the domination of the family labour. About 90% of the farms satisfy their job needs from their family members. The Berati region is characterized by the presence of minimum size farms (1.26 ha) varying between different typologies from 0.98 ha to 1.63 ha of land. Current situation offers little opportunity for full-time employment on the farm.

Table 2. Income Structure By Farm Typologies in Berati Region (ALL)

Farm Typologies	Net Income per farm (FNI)	Off Farm Income per farm	Household net income	% of farm income
1	2	3	4=2+3	5=2/4
Poly Culture for Market	777370	105066	882436	88
Self Sufficiency	244476	25928	270404	90
Livestock	599111	107642	706753	85
Fruit Trees Diversified Farms	406981	963210	1370191	30
Leisure Farms	217858	1181738	1399596	16
Arable Crop Market	543797	910967	1454764	37
Specialist Fruit Trees	214128	123700	337828	63

3.1 Farm productivity

3.1.1 Farm Net Income per Annual Work Unit

As it is seen in Figure 44, the clusters of Poly Culture for Market, Fruit Trees diversified, Arable Crop Market and Livestock farms are better performing in terms of FNI/AWU than the other clusters. Labour productivity is higher in these clusters because it is known the fact that one of the advantages of production diversification and livestock production is the full usage of labour. Furthermore, work force is better used in these clusters and they are economically better than the others. As it is seen, in Albanian agriculture, farms that are diversified are better performing than specialized farms in terms of FNI/AWU.

Labour productivity is lower in Self-sufficient and specialized clusters. Regarding Self-sufficient farms, as a result of their main purpose for producing mainly for self consumption, justify the low performance in terms of FNI/AWU. This is due to the fact that these farms are not much interested or able to be economically effective even in terms of FNI/AWU.

Concerning the specialised farms, such as Specialist fruit trees, with regard to investments it can be said that they are not yet effective because of the production cycle of fruit trees. A single activity should be more profitable for justifying the idle labour and production resources during certain periods of the year.

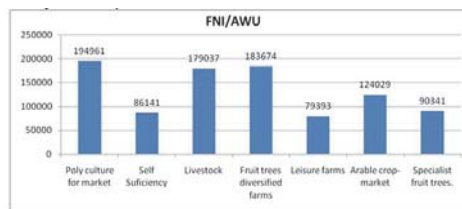


Figure 3. Farm Net Income per Annual Work Unit

3.1.2 Farm Net Income per Utilized Agricultural Area (FNI/UAA)

The land effective use is higher on diversified farms and livestock farms. This is due to the fact that vegetables and livestock products are part of the activities with high added value. Land productivity is lower in subsistence farms, leisure farms and specialized for fruits farms. The poly culture for market and livestock farms must be object of financial support from government in the future in Berati Region.

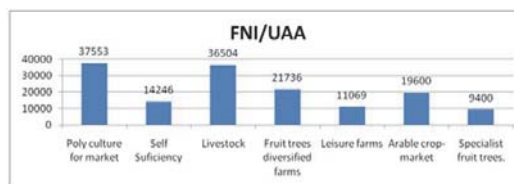


Figure 4. Farm Net Income per Utilized Agricultural Area

It is a known fact that in part-time farms (leisure farms), farm income does not constitute the main source of income for the family. The low level of income in specialized farms for fruits has to do with the fact that production in new orchards during the first years of their economic life is low.

3.2 Farm viability

3.2.1 FNI/AWU compared to minimal wage: AWU repayment

The effectiveness of labour force in agriculture in Berati Region is very low. Work in Agriculture is paid less than the minimal wage of all farm typologies.

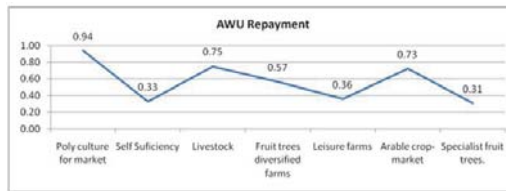


Figure 5. Annual work unit repayment

Only in the poly culture for market the labour is paid nearly 94% of the minimal wage. In livestock and arable crop for market farms work is paid at 75% of minimal wage. The work in agriculture and outside agriculture is paid more than the minimal wage in leisure, fruit trees diversified and arable crop market farms. The work in agriculture and outside agriculture is paid as much as the minimal wage in the poly culture for market farms and nearly 89% of the minimal wage in livestock farms.

3.2.2 FNI/THI per household member and extreme poverty

For farms that have agriculture activities as their main source of income, their household members are living over extreme poverty line.

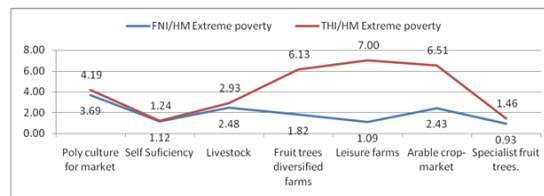


Figure 6. FNI/THI per household member and extreme poverty

Thus, as it is seen on the Figure 6 all farms types with the exception of the specialist fruit trees, consider agricultural activity as the most important source of revenues. In addition, for farms that are part of specialist fruit trees cluster, agriculture is not an important source for revenues. For further analysis, we can say that the more diversified a farm is the more effective it becomes. When it comes to the THI role as to the standard of living of farm household members in this region, it is clear that it has an important influence on most of clusters such as, Fruit trees diversified, Leisure, and Arable crop for market. Hence, for these three clusters as compared to the others, the off-farm and not on farm income is very important for the standard of living in terms of extreme poverty.

3.2.3 FNI/THI per household member in complete (full) poverty

Regarding the standard of living of clusters' household members, in terms of complete poverty, with regard to the FNI, we can say that farm clusters' household members such as poly culture for market, livestock, fruit trees and arable crop market are living over complete poverty. In contrast to this, the household members of clusters farms such as, self-sufficiency, leisure, and specialized fruit trees are living below the complete poverty.

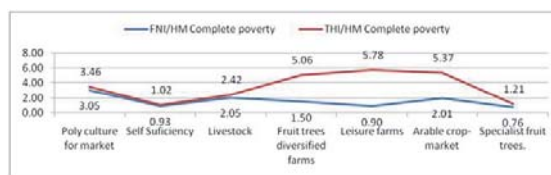


Figure 7. FNI/THI per household member and complete poverty

Calculating the poverty level based on total household income (THI) shows that family members are living over complete poverty on all types of farms. This proves that off-farm income constitutes a very important source of income for the family members of some types of farms in Berati Region.

4. Conclusions

The economic performance of agricultural units in Berati region, in terms of productivity and viability, still are not justifying their importance. Hence, as it was argued, some of farms were repaying the work force but were not utilizing with efficiency their agricultural land. For example, clusters such as, self-sufficiency, leisure and specialized fruit trees resulted not productive when compared to other clusters. Furthermore, considering the viability dimension of agricultural units in Berati region, except the Poly culture and Livestock clusters, all other clusters are not giving a significant contribution to the standard of living of farm household members.

Therefore, when FNI/HM is analysed in terms of extreme poverty, its role is not significant to all clusters, with the exception of the Poly culture and Livestock clusters because the coefficients are close to 1 (the line of extreme poverty).

Considering the role of THI in terms of extreme poverty, all farm clusters offer a significant contribution to standards of living of household members. This means that, the THI remains a very important source of farm household members in Berati Region. Furthermore, even in terms of complete poverty, the role of THI remains significantly important for farm household members in Berati region.

Poly culture in agriculture can provide several positive effects, but it is not likely to be a long term strategy for agricultural development. In addition, development of livestock, particularly cattle and small ruminants, should be considered and evaluated as a long-term strategy of agriculture development in Berati region.

References

The impact of policy instruments on the farming systems in Albania. Joint Research Centre, Institute for Prospective Technological Studies, Seville/Spain. Financed by: European Commission