Economics of agriculture
SI – 2
UDK: 637.1:636.32/.38

STATISTICAL AND ACCOUNTING COSTS AND EFFECTIVENESS OF TRADITIONAL SHEEPFOLD'S PRODUCTS

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Abstract

The agricultural food products and practices used for the management of land, pastures, meadows, and orchards, but also the manner in which animals are bred and cared for, plays a crucial role both in the creation as well as in the perpetuation of the local culture, landscape, but especially in the adults' and children's health. The essential part of this paper seeks to define statistical and accounting costs and effectiveness of traditional sheep's products.

The annualization methodology were based on the following methodological criteria, resulted from the subjective reactions and estimations of the interviewed persons, due to which it was necessary to view and determine the level of their incomes with some caution, based on the information collected from the households, and also compared with the international fairs.

Key words: *food, cost and effectiveness, traditional agricultural products.*

Foreword

In the elaboration of this article, the authors were challenged by a number of threats to the development of the Romanian economy, especially to the rural, or to the traditional one, such as:

- the abandonment of sheep breeding, with negative effects on the local food products,
- the drastic decrease of the sheep breeding population and of the average number of members of a traditional household, which will never be able to provide alternatives to the development of the agriculture by promoting certain agro-tourism activities in the affected areas,
- the excessive ageing of the rural population,
- the lack of a corresponding replacement rate among the young population, as compared

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to the elderly one, able to guarantee the survival of the main rural occupations and activities,
- the imminent disappearance of certain traditional local food products, and the resulting loss of culinary originality within certain programmes, projects, or agro-tourism services,
- the change of the original purpose of the agricultural lands, by desertification processes, systematic neutralization, and urbanization, etc.

The rural Romania still manufactures the traditional products that are so much appreciated both by Romanians, as well as by foreigners. Consequently, these traditional products should be protected in order that they should not be manufactured in other countries by forgery, or even intellectual theft. Under these circumstances, within the negotiations for the adhesion to the Community Policy, Romania requested protection for several a traditional products, such as: milk, yogurt, fresh ewe, cheese, pressed cheese, traditional Romanian feta (telemea) cheese, sausages, black pudding, ranges of bacon, rolled head cheese, ham, alcoholic drinks, fruit distillates, etc.

As compared to modern agriculture, with all the associated operations included in a supply chain which begins with the investors and the manufacturing companies, and ends with traders and food processing companies, traditional agriculture is disappearing, and its place is gradually taken by an agro-alimentary industry. In what the modern tourism is concerned, agro-tourism might be offered chances of survival, but only when it is correlated with agricultural activities with the purpose of increasing its economic efficiency, through the compensation of its seasonality, and through the perpetuation of the occupational traditions and of the specific consumption.

Case study: Research in the Carpathian and sub-Carpathian of the Arges County concerning the costs and efficiency of the traditional Romanian sheepfold products

The number of households that have applied for subsidies for sheep breeding (over 50 heads) and cattle breeding (over 3 heads) in 2009 has decreased dramatically. This has become a mere inventory problem, since subsidies will no longer be granted in 2010. There are several reasons for this problem, some related to certain objectives created by signing the adhesion to the EU, and others related to the lack of projects financed from European funds for the traditional Romanian farmers.

Within this case study, the number of sheep declared by Arges sheep flock owners ranges between 50-1500 sheep, but more than 60 % own maximum 100 sheep. The traditionally profitable sheep flocks counting more than 1,000 heads came to account for just 1.2 % of the total, which gives the first alarm signal in this field, according to the data taken from the farmers' applications for subsidies.

In the case of cattle, farmers frequently breed 1-4 heads, but what applicants for subventions are concerned, only 0.05% of the households (i.e. only 5) own an effective number of heads (over 100 cattle), able to generate long-term profits. Apparently, in the Arges County, in 2009, the number of households involved in the traditional sheep

breeding were subsistence households, i.e. more than 800 sheep breeding households (owning approximately 108 thousand heads) and more than 8,000 cattle breeding households (owning approximately 37 thousand heads). The polarization of the two population is extreme and the environment of the applicants for subsidies (approximately 135 heads of sheep and approximately 4 heads of cattle) reaches the dangerous limited level of the subsistence livestock breeding of the traditional households [Dinu, 1996, p.180], in addition to the nutritional impact of the animals in question (for example, cows can provide meet for 6-8 inhabitants if they are slaughtered, and milk for 10-15). At the same time, the number of applicants for subsidies for goats (over 25 heads) has increased to approximately 200 households with livestock of more than 12 thousand goats (with an average of approximately 60 heads).

The research methodology requires a broader initial presentation. Three localities from the Arges mountain area were selected: Corbeni, Rucăr and Domneşti within which the households were selected using the method of the array data structure, and the first list of twenty households was selected, based on the livestock size (we actually focussed on the efficient livestock breeding level) and some households offered to fill in a questionnaire based on (summarized in the annex), in which out guide was the ABF structuring guide (the traditional statistical research of the of the family budgets which has been performed by INS in Romania for over 70 years now), which we drastically reduced to only 4 pages (due to promptness needs and with the purpose of reducing the nonresponse). Out of the 14 households which provided data each month (reference period February 2010), only 9 provided complete databases for our study, the others being affected by incompleteness or undervaluation and omissions. Our small non-random guided sample, self-selected by free will and completeness, allowed for drawing conclusions related only to the general trends and structures, but we believe that they are sufficient to give significant alarm signals concerning the evolution of sheep breeding in the south of the Carpathian Mountains. Due to the wide variety of incomes in terms of sources, periodicity and size, their presentation in a standard manner is difficult. The information related to the incomes of the 9 households included into the sample was obtained based on these households' own statements, due to the fact that no other practical estimation methods are known. Under these circumstances, the question is if the data obtained by the self-statement method are truthful. The specialized literature mentions that, in the developed countries, the omission or undervaluation may exceed 20-25% of the incomes and expenditures (which cannot be thoroughly controlled by globalization). The understatement of the incomes may be due to various reasons such as:

- even if certain incomes are not illegal, are omitted or are undervaluated when they are in conflict with moral standards and values;
- incomes are also understated due to the fact that people try to obtain welfare payments which are granted based on a certain upper limit or even on the absence of any income;
- incomes are also understated in order to avoid social reactions;
- maybe the person who supplied the information does not know that his/her spouse or other members of the family have additional incomes;
- the incomes obtained by selling the products made in the household are not

usually declared, etc.

Obviously, in our small case study, the incomes declared are distorted and hard to evaluate, but we can assess their limit to 35-40%. The risk of understatement is small or even inexistent in the case of incomes obtained from official business activities (salaries, pensions, allowances, etc). Some categories of incomes were approximated, because the persons who answered the questions did not have a clear idea about the level of these incomes. The incomes associated to the own consumption were estimated with an approximation method which took into account the fact that they are hard to quantify. The annualization of the monthly data by questions related to the incomes and expenditures was required with the purpose of understanding how these households can survive for long periods of time without covering their expenses by appropriate incomes. Such an intervention called "annualization" extended the level of errors and omissions to more than 40%, towards 50%. Unfortunately, a monthly research for a continuous period of 12 months is neither possible (due to the absence of the members of the household, in the months with a major impact on sheep breeding) nor accepted by the head of the family cautious in an environment with fluctuant tax policies.

Box 1 - Methodological references of the research

The annual incomes per head of sheep are assessed based on the following knowledge:

- in spring, for a period of 2 months, 4 kg of traditional feta cheese/head of sheep are obtained and sold for 15 lei/kg ;
- in spring, for a period of 2 months, 3 kg of bladder cheese /head of sheep are obtained and sold for 30 lei/kg ;
- a slaughtered lamb is sold for approx. 10kgx20 lei/kg = 200 lei ;
- the annual income for one sheep is approximately 2x4x15+2x3x30+200 = 500 lei

The annual incomes for one head of cattle are assessed starting from the following aspects:

- the milk output is 10 -15 l/day ;
- a cow is milked approximately 9 months per calendar year;
- one kg of cow cheese is made from 5 l of milk, and is sold for 8 lei/kg ;
- the total incomes from the cow milk sold (the sheep milk is not sold) is 10,768 lei for the 9 studied households (see annex no.1) ;
- the total number of cows owned by the 9 studied households is 76 head ;
- the equivalent value of the milk sold /head of cattle = 10,768 /76 = 142 lei, i.e. 142 : 2.5 lei/l = 57 litres of milk sold /head of cattle;
- the annual income obtained from the cow cheese sold = [(15x30x9)-57] /5x8 = 6,388 lei ;

- taking into account that the percentage of the own consumption of the household 40% of the cow cheese obtained, the net income per head of cattle will be : 6,388-6,388x40% =3,833 lei ;

- the incomes obtained from a calf sold can be approx. 40 kg x10 lei/kg = 400 lei ;

- so, the approx. net annual incomes per head of cattle are : 142 + 3,833 +400 = 4,375 lei;

The expenses per head of sheep, or per head of cattle are assessed based on the information collected from the 9 households included in the final sample, based on the following information:

- the fodder costs for one head of cattle are 5 times higher than the fodder costs for one head of sheep;

- from the point of view of the fodder costs, we establish that one cow is the equivalent of 5 sheep;

- thus the cows owned by the 9 households represent 380 sheep ;

- the total number of equivalent sheep is 380 + 2,650 = 3,030 head;

- the total costs per head of sheep = 19,6981 : 3,030 = 65 lei /head of sheep;

- the total costs per head of cow = 65x 5 = 325 lei / head of cow;

Based on the results obtained, we assess the efficiency per head of sheep, or per head of cow, as follows:

- the annual profit per head of sheep = 500 – 65 = 435 lei ;

- the annual profit per head of cow= 4375 – 325 = 4050 lei ;

The information estimated above represents the optimum value of the results obtained per head of sheep, or per head of cow. Due to the fact that the structure and the profitability are different from one household to another, the data are obviously defined in a spectral manner by broad variation ranges.

Taking into account that the number of the members of a household varies from one family to another, the analysis of the total incomes reveals that an increase in the incomes should be analysed in comparison with the number of persons. For example, a significant increase is noticed when passing family with one member from to a family with two members. A bigger number of members of a household is associated with a more modest increase in the incomes, and in larger families there are even cases of decrease in the incomes. Incomes from agriculture cover one third of the consumer requirement.

In our presentation, we used the least volatile values, i.e. the average values. These values are briefly shown in the table below:

Table 1 - Main indicators of the average budget of a studied household in February 2010

INDICATOR DESIGNATION	**Average value /household**	**Average value / person**	**-in significant %**
TOTAL INCOMES (lei)	15,243	3346	
1.receipts	1,384	304	9.1%
2.Products sold	2,750	604	18.0%
2.1. basic products (milk)	1,031	226	
2.2. dairy products	1,718	377	
3. Slaughtered animals sold	4,587	1007	30.1%
4. Meat products sold	197	43	1.3%
5.Livestock sold	6,291	1381	41.3%
6.Alcoholic drinks	33	7	0.2%
TOTAL EXPENSES (lei)	16462	3614	
I. Household expenses	2,473	543	15.0%
1.1. Costs of products for consumption	724	159	
1.2. Fuel costs	907	199	
1.3. House maintenance costs	842	185	
II. Direct livestock expenses (hay, fodder)	6,804	1,494	41.3%
III. Other indirect costs	7,185	1,577	43.7%
3.1. Fodder and animal food costs (pasture-related costs)	4,665	1,024	
3.2. Livestock caretakers' wage costs	1,956	429	
3.3. Veterinary treatment costs	375	82	
3.4. Own or rented pasture maintenance costs	150	33	
3.5. Other expenses	39	9	
Final financial result	-1,219	-268	

Conclusions

A few of the alarming conclusions of the analysis, starting from the approach of the structure and trend related to this data affected by a 35-40% error ratio which is relatively reasonable for this type of research, (the data is given for February, is relatively more stable and is not annualized under this form of presentation), are as follows:

- the activity is highly seasonal in terms of incomes, due to the distribution of most of the incomes on two main periods, marked by the Easter holidays and shepherd's folk feast Nedeea, at the and of the cyclic transhumance (March–April, and the end of August–September);
- for 10 months per year, the budget of the sheep breeding household experiences a loss,

due to which support of subsidies are required (either through Government intervention, or through other tourist activities in which funds, programmes and projects focused on European resources may finance the necessary investments);
- the medium and long-term trend indicated by these incomes is very alarming, due to the fact that approximately 71.4% coming from occupational self-destruction by slaughtering the animals for survival, to an extent far beyond the normal limits (the average budget indicates that the sales of the meat coming from the slaughtered animals account for 30.1% and the sales of livestock represent 41.3%);
- the local meat products tend to disappear much faster than expected from the sheep breeding tradition in times of crisis (the sales of meat products now represent only 1.3 % of the average budget incomes);
- the self-consumption is increasing due to insufficient incomes in the periods with high pressure exercised by expenses (the monthly average purchased food product expenses per person are approximately 160 de lei, while the other food products required in order to perform a strenuous physical activity are provided from the own production thus increasing the consumption);
- almost 70 % of the expenses are related to the food for animals, as well as direct expenses incurred for the livestock increase (hay, fodder and investments in livestock) or indirect expenses (related to pastures, sheepfold, caretakers, pasture maintenance, etc.);
- the profitability of the sheepfold or "traditional sheep breeding business enterprise" is no longer stable [Murgescu, 1996, p.67] and tends to become bankrupt;
- the temporary survival solution has increased the importance of cattle breading, but the structural impact on the livestock generates the mixture and elimination of traditional sheep breeding (the number of cows is increasing in the mixed livestock, as compared to the number of sheep), so that the sheep has ceased to represent "the main means of production in the traditional sheep breeding activity" [Murgescu, 1996, pages 68-70].

Highland and lowland shepherds, Transylvanian shepherds or traditional sheep breeders tend to become mere historic references and are not replaced by other professions or occupations in rural areas, which seem to disintegrate due to lack of support, to the much too high burdens... The profitability of the sheep breeding occupation was never limited to its specific food products, and covered, instead, sometimes unimaginable social and even cultural forms. What kind of tourism product can be relevant and original in a mountain village without specific local products, customs, culture or calendar and space?

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*** The collection of the publication Financiarul, 2008-2010.