

# RURAL DEVELOPMENT AND AGRICULTURE: OPPORTUNITIES TO ATTENUATE THE ECONOMIC AND FINANCIAL CRISIS AND TO RESUME ECONOMIC GROWTH

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## **Abstract:**

*The growing interdependency of national economies within the world economy as well as the increase of sectoral connections and dependencies of Romania's economy are processes that determine the connection of the Romanian economy and agriculture (rural development, in its broader sense) to the present financial and economic crisis.*

*Taking into consideration the present world (and Romanian) economic background, the main dilemma referring to the agri-food economy position in the crisis context can be formulated as such: **are rural development and agriculture factors contributing to crisis accentuation or (possible) solutions for crisis attenuation and economic growth relaunching?***

*Starting from the present situation of the Romanian rural area (precarious infrastructure, deficient land management and technical endowment of the rural territory, localities and houses; agrarian rural economy; low absorption of agricultural labour force in the off-farm rural economy, etc.) and of agriculture (strong disequilibria at all levels of agricultural activities; very slow economic growth and great dependency on the weather conditions throughout the year (twice as high); technological and structural obsolescence of the capital stock; low investments that result in non-significant increase and modernization of fixed assets; low absorption of the European funds; low productivity and yields; still high share of close autarchic (subsistence) economy; still too low share of commercial agriculture; significant food safety disequilibria; market contraction; increased transformation of the Romanian agricultural market into an outlet for imported products; price distortion; food trade balance lacking equilibrium, with a negative balance of payments; totally imbalanced distribution in the participation of agricultural holdings to the final profit of the agricultural commodity chains, i.e. the farmers have the lowest share of participation to GVA while the traders get the highest share. All these lead to a low level of compatibilization and competitiveness of Romanian agriculture on the Common European Agricultural Market or in general on the world market. From the economic doctrine and practice it results that **agriculture is an economic activity vital for society**, and consequently it is a sector that contributes to maintaining the stability, continuity and economic growth and to the economic crisis attenuation in the present conditions; yet this contribution can be manifested only in the case when **massive investments are made in the infrastructure that generates agricultural production increase** (irrigation system, farm consolidation) as well as **in the technical and technological equipment of the agricultural territory, of the rural area and localities, in the off-farm rural economy, agriculture and overall rural development, as economic growth factors.***

**Key words:** economic-financial crisis, recession, CAP, investments, agricultural market, prices

**JEL classification:** Q10, E0

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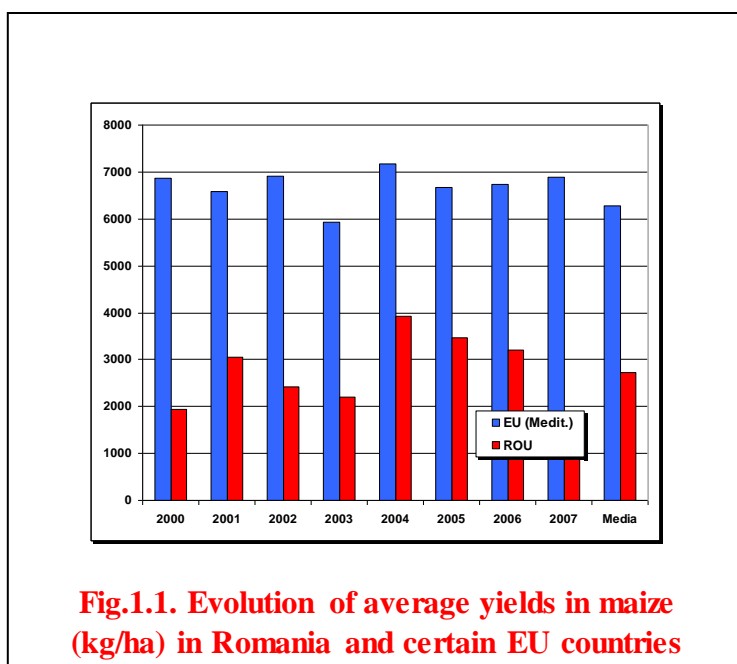
## I. What is the stage of Romanian agriculture and rural development in the year 2009? Where do we start from?

At a first glance, the answer is simple: from the legal point of view, since January 1, 2007, the Romanian agriculture, as well as the entire Romania, is part of the European Union, and the **current stage of Romanian agriculture is similar to that of the agriculture of the EU-6 countries in the period 1957-1962:**

- the value of primary production per hectare obtained by the Romanian farmers (about 300-350€/ha) is 2.5 times lower than the value of production obtained by their European counterparts (750-800€/ha);
- the gross value added in the Romanian agriculture is half of its level in EU-15, which results in a final agricultural production of about 880-900€/ha compared to 1950-2000€/ha in EU-15 (i.e. 2.2-2.5 times lower);
- food self-consumption on Romania's subsistence and semi-subsistence farms represents 460-480€/ha, accounting for 50-52% of farm production (compared to 10-12% in EU-15), which results in a commercial agricultural production value of 400-420€/ha, four times lower compared to the EU-15 average;
- the agricultural yields on the Romanian farms in the period 2000-2008 are at the level of yields obtained by the EU-6 farmers in the decades 6 or 7 of the last century;
- insufficient rehabilitation of the irrigation systems (about 30-35%) and their functionality on an area of 200-300,000 ha/year (8-10%);
- poor dwelling condition for about 38% of the rural population due to the high share of dwellings (houses) from non-durable materials (40-42%) and to their high ageing level (75% of dwellings are older than 30-35 years);
- inadequacy of the drinking water supply system (more than half of the rural dwellings are not connected to the public water supply network);
- extremely low level of equipment of rural areas and houses with natural gas installations, heating systems, sewerage system (by about 5-6 times lower than in the urban area; even in the urban area, this index is much lower compared to the EU-15 and even EU-25 average).

### 2. The main factors generating non-performance in Romania's agriculture

#### 2.1. The non-performance of annual agricultural production is in the first



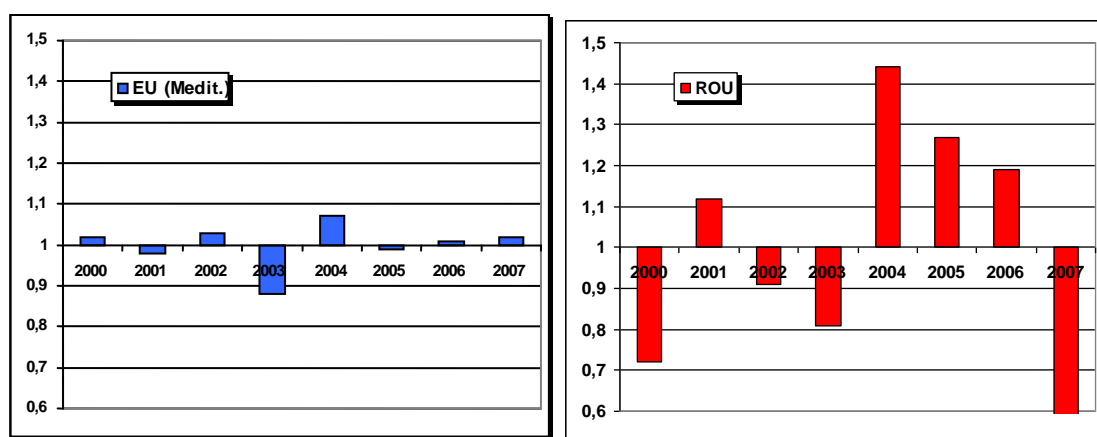
**Fig.1.1. Evolution of average yields in maize (kg/ha) in Romania and certain EU countries**

place the result of the **still too high dependence of agricultural production on the annual weather conditions** as the irrigation systems are degraded and non-functional in a large part, the farm endowment with irrigation equipment is deficient, the irrigation water cost is high and the **agricultural technologies in use are obsolete**, with low consumption of inputs from the category of inputs that lead to performance.

The drought, which is mostly frequent, adversely impacts

agricultural production, mainly in the Romanian Plain, Dobrogea and Moldova, where the largest irrigation systems are found, built up in the period 1960-1990, which are non-functional or have not been used for about 20 years. Figure no. 1 presents, on a comparative basis, the average yields for the main crop cultivated in Romania, i.e. maize, and the yields obtained by the EU countries from the Mediterranean area (France, Italy and Spain), which have ecological conditions and irrigated areas comparable to those from Romania. Figure no. 2 presents the fluctuation of average yields in the period 2000-2007, on the basis of the annual variation index.

In the above-mentioned countries, the maximum difference between the annual maximum and minimum yields is about 1300 kg/ha, at an average multi-annual yield of 6300 kg/ha (20.6%), while in Romania the maximum difference is 2000 kg/ha at a multi-annual average yield of only 2700 kg/ha (74.1%). Although the (UE:RO) yield ratio is 2.7:1, the differentials ratio is 1:1.7, which obviously proves the non-performance of Romania's agriculture.



**Fig.2. Annual variation index of average yields in the maize crop in Romania and certain EU countries**

## 2.2. Agricultural non-performance costs in Romania

Romania's agricultural non-performance and the multi-annual fluctuations have most severe consequences upon self-sufficiency in agricultural products as well as upon the general costs of the sector.

In a recent study (2008), conducted on several agricultural holdings<sup>3</sup>, it results that the fixed costs per hectare account for about 48% in wheat and 53% in maize (basic mechanization works, soil preparation for seeding, crop maintenance, harvesting, etc.), the difference being represented by the variable costs of inputs that determine the size of average yields. The fixed costs per hectare for the two crops average 800-850 RON/ha. Taking into consideration the fact that in the period 2000 – 2008, in Romania, about 5-5.5 million hectares were cultivated with wheat and maize, with an average yield of 2.65-2.70 t/ha, compared to the average yield in France of 7.0 t/ha of grains, the following question arises: which would be the necessary area under cereals in Romania for covering the annual consumption of cereals of about 14-15 million tons, in the case when Romania obtained cereal yields similar to those from France and other EU countries? The answer is simple: 2-2.2 million hectares. From this calculation, it results that in Romania the **annual costs generated by non-performance reach about 2.4-2.5 billion RON** (500-600 million €); this amount could be allocated to the additional

<sup>3</sup> Cecilia Alexandri, Iuliana Ionel – *Studii comprehensive ale sectoarelor agricole importante*, Academia Română, INCE, IEA, Contract de servicii 196/2008

inputs that are necessary to increase production at France performance level, while the area of 2-2.2 million hectares could be allocated to other agricultural crops.

### **2.3. Crises and permanent disequilibria in Romania's agriculture**

The Romanian farming sector, as well as the whole agri-food economy is facing the **crisis of inefficient allocation and utilization of resources** (which started long time before 1989); it is strongly affected by the current **disequilibria system** existing in land ownership and farm, markets, agricultural prices and input prices, competitiveness and institutional operation, all these factors generating lack of performance.

It is worth mentioning that in the period 1993-2004 (during three governance cycles), financial support to agriculture was allocated under different forms, 400-500 million €/year on the average; at the same time, the investments in agriculture totaled 400-450 million €/year in the same period, while in the recent period, i.e. 2004-2008 they exceeded 100 million €/year. Both the budgetary support schemes and the investments (totaling about 10-12 billion € in the above-mentioned period) were not reflected in the increase of agricultural production value (APV) and of GDP produced in agriculture (GDPA), being maintained at the same level of 10-11 billion €/year APV and 5.5-6.0 billion €/year GDPA.

The financial support to agriculture under different forms (fixed subsidy per hectare, vouchers depending on the cultivated area, and allocations per animal head) largely represented a "hidden form" of social protection rather than farm development and farm performance increase modalities. With regard to the inefficiency (or even wasting) of the financial resources allocated to our country's agriculture, we consider it useful to make a few comments on the impact of the present EU finance system upon agriculture and agricultural holdings. At the same time, a few specifications regarding the different funding (support) systems of EU agriculture, in different stages, depending on the evolution level of farms, are useful for understanding certain points of view on the support to agriculture in Romania.

### **3. Agricultural support systems in the period after the 1960s**

It has been already mentioned, at the beginning of the present study, that there is no interface, but rather great discrepancies between the situation of Romanian agriculture in the year 2009 and the current EU financial system. In order to argue the veridicity of the above statement, it is sufficient to present the actions taken by the EU founding member states, from the financial point of view, in the period when their agriculture was in a situation similar to our country's agriculture as regards their institutional structure and performance.

In the period 1945-1950 all the West-European countries, mainly France and Germany, developed the first programs for agriculture modernization and equipment, having as main objective the **general increase of yields** through the reconstruction of agricultural holdings with a strong technical endowment, through the development and equipment of the agricultural family farms. The West-European governments had a massive intervention on the agricultural holdings by providing financial support to farmers, with the increase of yields as main immediate effect, as well as by subsidizing the agricultural markets, which contributed to the significant diminution of agricultural price fluctuations, and through this to the increase of the population's purchasing power and finally, to agricultural production relaunching. At the same time, the second important decision targeted the **improvement of agricultural markets operation conditions through the rationalization of distribution circuits**. It is in this period that the target prices, indicative prices and campaign prices in the main agricultural products were introduced. The public power got involved in the purchase, storage and resale of agricultural products, favouring the farmers rather than the state and the storage entities.

The favourable differences between the selling prices to consumers and the purchase prices from farmers did not represent income to the state budget, but rather a source for support to farmers for the next harvest. The unfavourable price difference was transparently supported from the state budget.

The decisions of the West-European governments had immediate beneficial effects upon agriculture, in general, and upon the farmers from these countries; in the next 4-5 years the farms had a good technical endowment, the agricultural holdings were consolidated, resulting in the revigoration of agricultural production. This revigoration had different costs by countries and differentiated market prices between the different West-European countries. These phenomena, together with the other market mechanisms, in general, and the West-European agricultural market mechanisms in particular, determined the six states to adopt the decision to establish the European Common Market and the Common Agricultural Policy, having the following main objectives:

- agricultural productivity increase based upon the introduction of technical and biological progress, thus ensuring the agricultural production increase, through the optimum use of the production factors and of the family labour that was more and more qualified;
- ensuring a decent living standard for the agricultural population, based upon satisfactory individual incomes for farmers;
- guaranteeing the security of supply with agri-food products for the population (consumers) from the EU Member States;
- guaranteeing reasonable selling prices of the agri-food products to consumers.

**The Common Agricultural Policy (CAP)** was based upon three fundamental principles:

- single market growth and maintenance;
- respect of Community preference;
- existence of a Community financial solidarity.

The three correlated principles had value and efficiency only on an aggregated basis. Thus, it can be explained that in about 25-30 years, 10 million farmers from the European Union, on 8.6 million agricultural holdings, managed to feed 160-180 million people in the European Community, to which 70-75 million people were also added from other regions of the world to which EU exported foodstuffs.

At the same time, CAP contributed not only to the development of the "agricultural vocation" of the EU, but it also contributed to maintaining the equilibrium between the farmers' and consumers' interests. Besides the main economic, commercial and social CAP interests, we should also add the EU vision on agriculture; **in the opinion of the European Union founding members, agriculture was both an economic activity and a lifestyle, an existence modality, an agri-culture.**

#### **4. Main characteristics of the agricultural market evolution in the present decade**

It is well-known that on the agricultural markets, owing to certain disequilibria determined by the relatively constant demand (consumption) of agricultural products and the fluctuating supply (depending on the variable annual harvests), significant variations of prices of agricultural raw materials and of the food products can be noticed on the long term (and recently on the short and medium-term as well). The discrepancy between the stability, food security and safety and financial solidarity requirements and the price fluctuation on the agricultural market, due to the disequilibria that appeared between the demand and supply of food products and mainly to the speculative actions, pushed to the immorality limit, has had significant negative economic and financial influences, sometimes insurmountable, upon both farmers and consumers. We present

these trends on longer term (2000-2008) (Table 1 and Figures 3.1., 3.2.) and on short term (February - November 2008) (Table 2 and Figures 4.1., 4.2.) for three products of main importance, both for farmers and for consumers.

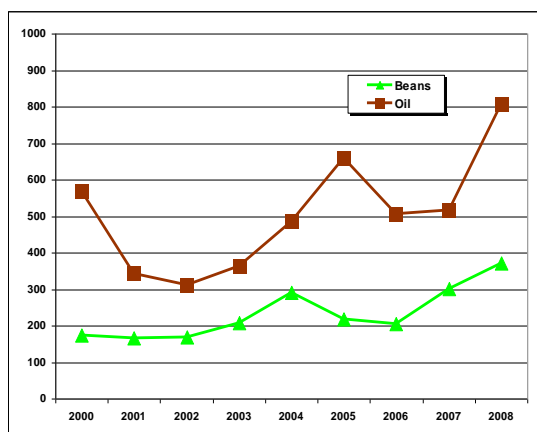
**Table 1. Evolution of prices on long term (2000-2008)**

Year	Soybean, USD/t		Sunflower, USD/t	
	beans	oil	seeds	oil
2000	173	569	223	444
2001	167	344	168	365
2002	170	311	167	350
2003	209	363	238	513
2004	291	486	265	741
2005	217	661	282	738
2006	205	507	316	902
2007	301	516	261	896
2008	372	807	329	1566

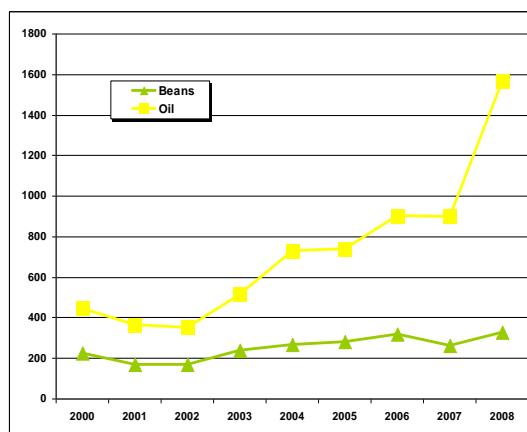
**Table 2. Evolution of prices in the year 2008**

Month	Paris, €/t			Chicago, USD/t		
	wheat	Sunflower		wheat	Soybean	
		seeds	oil		beans	oil
February	280	605	1840	200	490	1250
June	206	505	2000	280	550	1400
November	140	270	870	150	340	850

Considering the price evolution on the short term (year 2008) in wheat, sunflower and soybean, a question obviously arises: who has acted, lately, on the agricultural market, **the invisible hand** or **the speculative hand**? Our answer is clear: the speculative hand whose action is amplified by the deep immorality situation that has been increasingly manifested on the financial-banking market, with strong reverberations on the world market as well, which adversely impacts the first segment of the agricultural chains, i.e. the agricultural holding and the farmers' economic equilibrium.



**Fig.3.1. Evolution of prices in soybeans and soybean oil, (\$/t)**



**Fig.3.2. Evolution of prices in sunflower seeds and oil, (\$/t)**

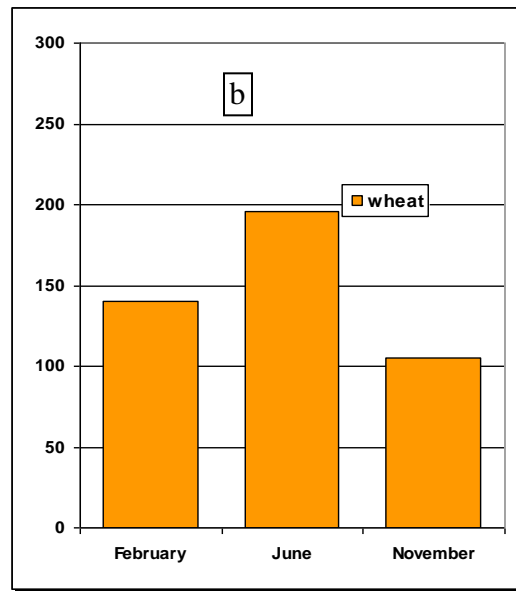
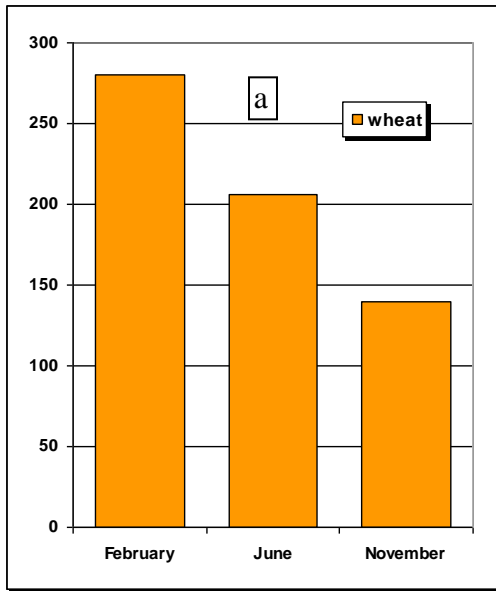


Fig.4.1.

Evolution of wheat prices - Paris commodity exchange, €/t

Evolution of wheat prices - Chicago commodity exchange, \$/t

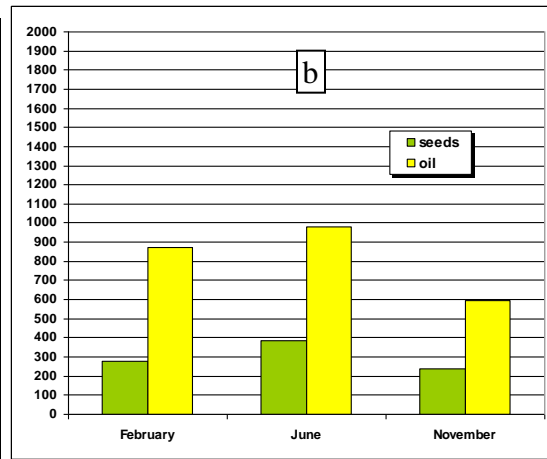
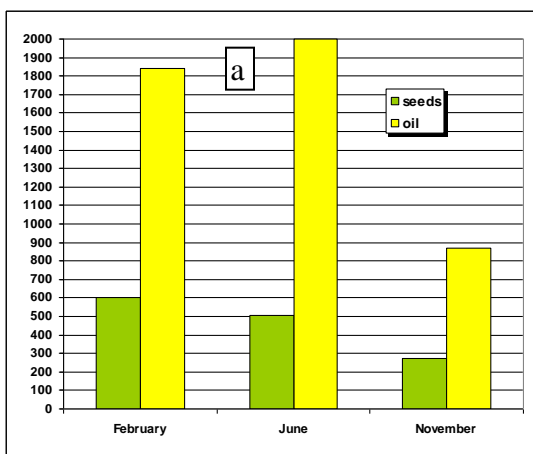


Fig.4.2.

Evolution of sunflower prices (seeds and oil) - Paris commodity exchange, €/t

Evolution of sunflower prices (seeds and oil) - Chicago commodity exchange, \$/t

### 5. Romania's agriculture situation after 1990

After 1990 agriculture has had an important influence both on the general economic growth (depending on the agricultural year, it influenced economic growth by  $\pm 2-2.5\%$ ) and on the population's food expenses and on the structure of the balance of trade and of payments in the agri-food sector.

The evolution of the size and structure of the population's food consumption in Romania is presented in Table 3 and Figure 5, while the balance of trade and the agri-food trade deficit in Figures 6 and 7.

Table 3. Size and structure of food consumption in Romania

Specification	2000		2001		2002		2003	
	billion €	%	billion €	%	billion €	%	billion €	%
Total expenses of population	15283	100	16565	100	17913	100	21920	100
Value of food consumption	8197	53.6	8034	48.5	8186	45.7	10215	46.6
Expenses from domestic production	7184	(87.6)	6686	(85.2)	6940	(84.8)	8680	(85.0)
of which – food self-consumption	4918	60.0	4282	53.3	4093	50.0	5240	51.3
Food expenses in cash	3279	40.0	3752	46.7	4093	50.0	4975	48.7
of which: - domestic production	2266	(27.6)	2404	(29.9)	2847	(34.8)	3440	(33.7)
- imports	1013	12.4	1348	16.8	1246	15.2	1535	15.0
Share of consumption from imports in food expenses	-	30.9	-	35.9	-	30.4	-	30.7

Specification	2004		2005		2006		2007	
	billion €	%	billion €	%	billion €	%	billion €	%
Total expenses of population	28360	100	34836	100	41071	100	55970	100
Value of food consumption	12790	45.1	14387	41.3	16100	39.2	22000	39.3
Expenses from domestic production	11076	(86.6)	12367	(86.0)	13675	(85.0)	19300	(87.7)
of which – food self-consumption	6395	50.0	6293	43.6	7004	43.5	9570	43.5
Food expenses in cash	6395	50.0	8094	56.4	9096	56.5	12430	56.5
of which: - domestic production	4681	(36.6)	6074	(42.4)	6671	(41.5)	9730	44.2
- imports	1714	13.4	2020	14.0	2425	15.0	2700	12.3
Share of consumption from imports in food expenses	-	26.8	-	24.9	-	26.7	-	21.7

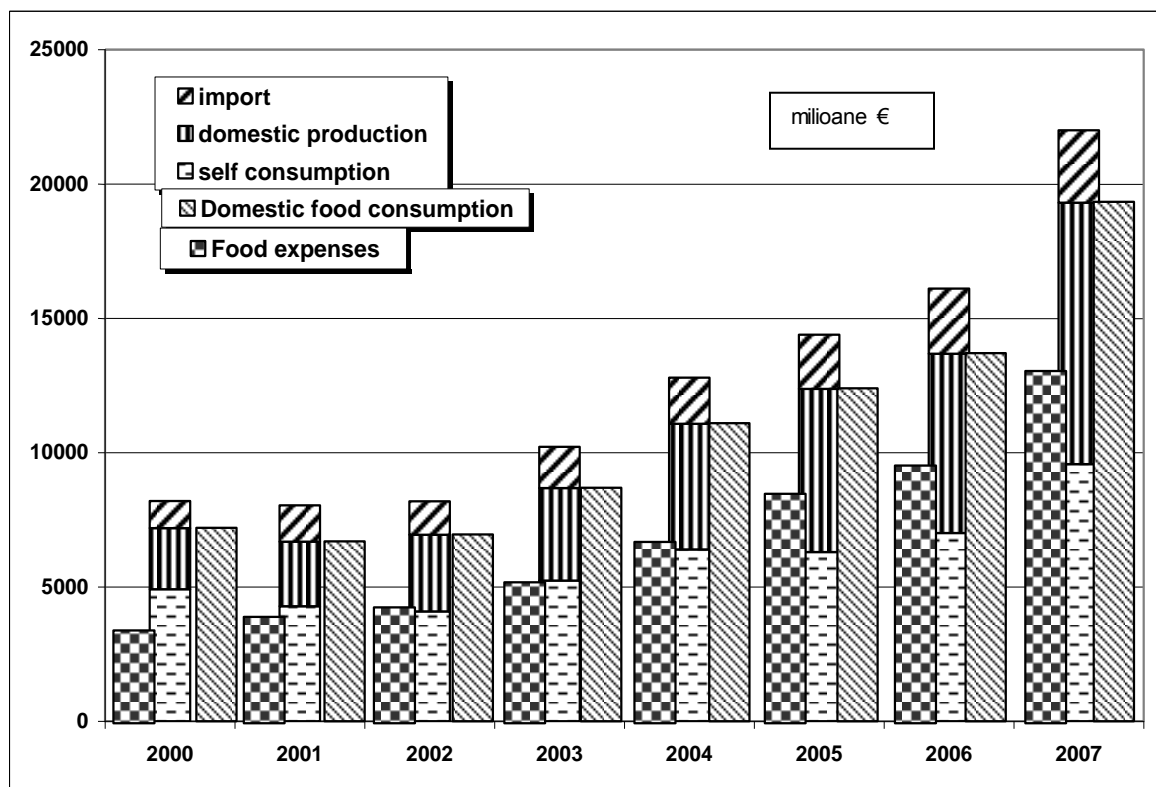
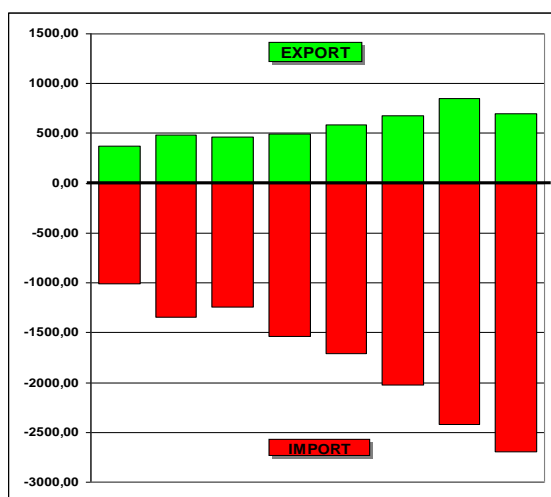
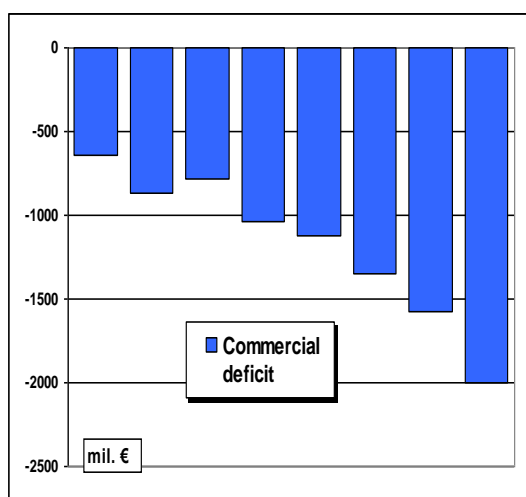


Fig.5. Evolution of size and structure of food expenses in Romania





**Fig. 6. Evolution of Romania's agri-food trade balance**



**Fig.7. Evolution of Romania's agri-food trade deficit**

It is worth mentioning that more than 60-62% of Romania's food imports<sup>4</sup> are represented by products that could be obtained in our country: meat and meat preparates (over 31-32% in recent years), cereals and wheat flour (with a maximum share of 20% in 2003, and 8% in 2007), soybean and soybean oil cakes (over 50% of the necessary after the year 2005 when the cultivation of GMO soybean was forbidden; in the period 2001-2004, in soybean and soybean oil cakes the balance was positive), fresh vegetables, fruit and flowers (8-12% each year in the period 2000-2007), sugar, tobacco, hops, etc.

Analyzing the data on the Romanian agri-food consumption, we have to highlight a few negative evolutions from the economic point of view both for agriculture and for the general economic equilibrium of the country:

- the share of food expenses in total population's expenses is maintained at extremely high levels, reaching 39.3% in 2006, twice as high compared to the EU-25 average and by almost 2.8-3 times as high compared to the EU-15 average;

- although it significantly declined, from 60% in the year 2000 to 43.5% in 2007, the share of food self-consumption is the highest in EU-27, three times higher compared to EU-15 countries;

- in absolute terms, the food consumption per capita in Romania is at a minimum subsistence level; in the year 2007 it reached 9.92 RON/day (about 2.83 €/day), much under the food consumption/day/capita from the countries with medium consumption from the EU (by about 2.2-2.5 lower);

- we are quite doubtful with regard to the agri-food consumption value in the year 2007, as the year 2007 was the poorest agricultural year from the investigated period as regards its performance (the cereal production represented 57% of the 2000-2007 average). Calculated by means of dynamics indices, we get a food consumption of about 18-18.5 billion € for the year 2007, out of which 14.6 billion € from the domestic production and 2.7 billion € from food imports. The domestic food consumption in the year 2007 consists of 10.3 billion € domestic food expenses and 7.8 billion € food self-consumption. From the evaluated data, it results that the population's food expenses totaled 10.0 billion €, namely 7.3 billion € food expenses for the products consumed from the domestic agri-food production and 2.7 billion € imported agricultural products,

<sup>4</sup> Mirela Rusali, Camelia Gavrilesu – *Avantaje și dezavantaje competitive ale produselor agricole românești în relațiile comerciale externe*, Vol. Lucrări științifice, Seria I, Vol. X, USAMVB, Timișoara, 2008

i.e. 73% expenses for domestic production and **27% expenses for imported foodstuffs, which is an unacceptable share for an agricultural country like Romania.**

From the latest estimates of the National Institute for Statistics for the year 2008, it results that the food imports increased to 3.7 billion €, which put a further burden on the country's trade balance.

## **6. Beginning of the economic-financial crisis**

Starting with the first crisis signals that appeared in Romania last year (August-September), at present, in early 2009, the financial and economic crisis is more than obvious in our country. The dramatic decrease of liquidities in the banks, more expensive and diminished credits, temporary staff rationalization, people getting unemployed, diminution of the population's purchasing power and consumption, market contraction, production diminution through increasingly more and longer production gaps in the companies from increasingly more industrial and services sectors, drastic decrease of the incomes to the state budget in the fourth quarter of the year 2008 due to the decline of taxpayers' payments who are found in temporary insolvency situation, massive depreciation of the national currency, exaggerated increase of the budgetary deficit compared to the short-term forecasts, etc. are obvious signals of the economic-financial crisis.

All the economic phenomena characteristic to crisis add to the chaotic changes of prices in the two main categories of products: energy and food; these processes make us consider, as it has been already mentioned, that the world, European and also the Romanian market are regulated by a speculative hand (rather than by the invisible hand regulating the economic equilibrium), as well as by the **precarious economic, banking, commercial and political morality situation.**

In such an environment of economic turbulence, agriculture, commercial agriculture in the first place and the agri-food market could not be avoided by the financial-banking crisis. The current financial crisis also impacts the small-sized (subsistence and semi-subsistence) peasant farms and the large agricultural commercial companies in the first place, as well as the storage and processing companies, the effects being different for each category of economic operators from the agri-food sector.

**6.1. The small subsistence and semi-subsistence farms** will bear more easily the crisis shocks due to the much looser connections to the financial, banking and commercial system. The crisis effects will be mostly noticed in the size of yields, performance and domestic consumption (food self-consumption), as these will decrease. At the same time, the surplus of primary agricultural products, although much smaller compared to previous years, will be taken over in increasingly smaller quantities, due to the lack of performance in the network taking over, storing and processing the products and to the lower prices of agricultural raw materials.

Another effect, considering the precarious situation of labour force use on the domestic and European market, consists of the strong demographic pressure upon the small-sized farms due to the urban-rural and internal rural migration.

We consider that the strongest effect upon the subsistence and semi-subsistence holdings will be represented by the diminution of their share (in number and area), determined by the transfer of these holdings to the medium and large-sized companies, associations and farms, through agricultural land sale and/or leasing out by the subsistence and semi-subsistence farmers.

**6.2. The commercial agricultural holdings and the agri-food companies** will be subject to much stronger shocks induced by the crisis, which will be mainly manifested into the following direction:

- **diminution of bank credits** (for production and for investments), worsening the crediting conditions (extended guarantees) and finally more expensive bank credits.

We must underline that the bank credit in Romanian agriculture has an extremely small coverage area, due to the restrictions imposed to crediting by the banks and to the reduced banking network in the rural area. We consider that one of the modalities to improve and expand the agricultural credit would be the capitalization of the Savings Bank (CEC), as a commercial bank with state capital and the specialization of a department from this Romanian bank in rural (agricultural) credit;

- **extremely expensive commercial credit** practiced by the companies supplying agricultural inputs and equipment. The commercial credit, although attractive at first glance (yet misleading), is much more expensive compared to the credit from the banks, the farms having to accept it and ask for it due to the convenient repayment modality (at harvesting or at the moment when the production is sold);

- **the decrease of agricultural prices – of agricultural raw materials** strongly affects the financial equilibrium and the cash flow on the agricultural holdings;

- the commercial farms, agriculture in general, will take over, through the transfer of intersectoral negative economic effects, permanently determined by the governmental policies. Since 1990 (but also before, in the communist period) up to the present moment, with the present government in power, agriculture has been a priority only in the declarations and programs. In reality, agriculture and rural development in general have never represented a financial support priority, in any governmental cycle, mainly in the field of investments, in the equipment of the rural area and agricultural holdings. Suffice it to mention the “parody” program of irrigation system rehabilitation, which in 20 years has had the same rehabilitation rate as the construction of motor ways in Romania; the difference between the two large investment projects is that in reality, the physical irrigation systems were already in place, while the motor way network was not.

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After presenting the current situation of agriculture and rural area the following question obviously arises: **What is to be done so that agriculture and rural development can represent factors determining the economic-financial crisis shock attenuation and resuming economic growth?**

We consider that the answer to this question can be given only starting from the possible **capital injection** in agriculture and rural development, in economic factors, in investments that generate jobs, rural economy growth, increase of production and productivity on the agricultural holdings, in rural territory equipment, in infrastructure, that is from finding and putting into application the necessary financial resources, through financing systems adequate to the current situation, resulting in putting an end to the economic decline and resuming economic growth.

It is obvious that Romania, as a EU Member State since 2007, according to the accession agreement, has to “get in line” with the agriculture and rural development finance systems in practice in the EU. Yet, with a main remark: **All the CAP financing systems adopted by EU** since its establishment up to the present moment, except for the first system, in use in the immediate period after the Common Market establishment, **were finance systems operating in the conditions of strong general economic and agricultural growth** for balancing the agricultural supply (in many cases with surplus production) with the demand on the common agricultural market, financial systems targeting the performant family farm consolidation, as well as more refined financial systems related to environment and landscape protection, animal welfare, etc.

The finance systems in EU have greatly evolved since the Common Agricultural Policy adoption up to the present moment, taking different forms according to the

development stage of the agricultural holdings and of the European agricultural market. The agricultural and rural development finance system adopted by the European Commission, in the present period, is adapted to the present development stage of agriculture and rural area, but only in the developed countries of the European Union. It is obvious to ask ourselves whether the current CAP finance system would stimulate, help and support the Romanian agricultural holdings, which, we must repeat, are most often found in the situation of the EU agricultural holdings in the 1960s.

Taking into consideration the present period, of generalized economic and financial crisis, we should also specify that **none of the EU agriculture and rural development finance systems** has been designed for periods of economic-financial crisis or of globalized economic recession.

That is why certain points of view that will be next presented, on the modalities to attenuate the crisis in agriculture and to increase this sector contribution to relaunching economic growth, might be in disagreement with the present CAP finance system adopted by the EU.

## **II. The main modalities to attenuate the crisis effects and to resume economic growth in agriculture**

From the analysis of causes generating technical and economic non-performance in agriculture, it results that a chronic scarcity exists in the (optimum) allocation of production factors, together with a deficient management on most agricultural holdings and commercial companies (and SMEs) that process the agricultural products, as well as main deficiencies in the management of chains that take over, store and trade the agri-food products.

When discussing about crisis attenuation and resuming economic growth through the contribution of agriculture, we should specify an obvious fact. In the first place, the strategies, programs and projects for agriculture focus upon **sustainable rural development**. The question that arises is the following: what kind of sustainable rural development and sustainable economic growth in agriculture can we talk about, when in Romania the situation of agriculture and rural areas is that previously described in this paper?

Sustainable rural development means modern rural infrastructure, adequate technical endowment of the rural territory, localities and rural dwellings, a living standard comparable to the urban and European rural living standard, use of renewable natural resources in the economic circuit, environment and landscape protection.

We can talk about sustainable economic growth only when, first of all, investments are made on the medium and longer term in agri-food productive sectors, in advanced technologies, in competitive commercial circuits for the Romanian agricultural products, through agricultural market enlargement, turbulence attenuation and diminution of production and price fluctuations by the increase of Romanian agricultural products participation to third markets, to the European common market in the first place.

But, coming back, how can we discuss about **sustainable economic growth** in agriculture, as long as the Romanian agriculture “performance” is at the lowest limit, as long as, in the ecological conditions of our country, we import over 25% of the Romanian food consumption value?

### **CAP finance systems**

<b>EU-6, 1960-1970</b>	<b>EU-15, 2000-2009</b>
<ul style="list-style-type: none"> <li>- Average grain yields 2700-3000 kg/ha</li> <li>- Average milk yield 2500-2800 l/head</li> <li>- Food imports 25-30%</li> </ul>	<ul style="list-style-type: none"> <li>- Average grain yields 7000-8000 kg/ha</li> <li>- Average milk yield 7000-7500 l/head</li> <li>- Food surplus 20-25%</li> </ul>
<p><b>CAP objectives supported by financial solidarity:</b>  <i>-agricultural productivity increase based upon technical and biological progress, ensuring the agricultural production increase through the optimum use of</i></p>	<p><b>CAP objectives supported by Health-Check (CAP-HC)</b>  <i>-increase of agricultural products competitiveness on the domestic EU markets and on the world markets;</i></p>

<p><i>production factors and increasingly qualified family labour;</i>  <i>-ensuring a fair living standard for the agricultural population, by obtaining decent individual incomes for farmers;</i>  <i>-guaranteeing the agri-food supply security for the population (consumers) from the EU Member States;</i>  <i>-guaranteeing reasonable selling prices of agri-food products to consumers.</i></p>	<p><i>-food safety improvement through foodstuffs quality increase;</i>  <i>-ensuring social equilibrium on the basis of agricultural income stabilization and creation of new income sources;</i>  <i>-agricultural practice in agreement with the environment, ensuring animal health and welfare, by decoupling payments from production and establishing a single payment scheme per farm, in parallel with introducing the cross-compliance principles.</i></p>
<p><b>Financing effects:</b>  - Consolidation of holdings  - Twice of three times higher yields  - Surplus (exports) of 20-25%</p>	<p><b>Romania</b>  - Average grain yields 2500-2700 kg/ha  - Average milk yield 2800-300 l/head  - Food imports 25-30%</p>

And again, how can Romanian agriculture get in line with the EU competitiveness levels, through CAP – Health Check (CAP – HC), the new agriculture financial support system, as long as the investment program for sustainable economic growth is almost non-existing, compared to the true needs of productive investments?

When, in what period and by what financial support systems did the EU Member States achieved the “CAP miracle”, at the time when they provided massive financial support to farms through investments, in the decades '60-'70 of the last century, or now, when the CAP-HC is being applied (see previous box)?

For the EU Member States with a developed agricultural sector, the new CAP - HC fits like a glove, while for Romania’s agriculture it does not fit at all. Why? The answer is simple: the amounts that reach the farmers through the single area payment scheme (SAPS), of about 100 €/ha (direct payments from the EU budget + complementary payments from the national budget), i.e. 430 RON/ha at the current exchange rate – February 2009, in the case of non-commercial (subsistence and semi-subsistence) agricultural holdings, which operate over 60% of the country’s agricultural land area, are used as an allocation to farmers, in the best case, as necessary amounts for covering minimum annual production costs. According to the real situation in the field, these amounts are largely used as “social protection” for covering certain expenses of first necessity on the rural holdings.

For the EU-9 or EU-15 Member States, with surplus foodstuffs, the CAP-HC application, through the single payment scheme (SPS) averaging 300 €/ha, taking into consideration the farm performance and consolidation level, can be considered much more suitable for the new finance policy (which does not distort the market).

Coming back to the need of **sustainable economic growth in agriculture**, it is important to reiterate the *sine qua non* condition of these: **allocation of funds for investments in the increase of agricultural yields, in an increased participation of our country on the foreign agri-food markets**. It results that the first steps to take in agriculture and rural development in Romania consist of directing the investments from the national (private and public budget) funds, European funds and from the domestic and foreign credits into: permanent and constant factors generating technical and economic performance on the agricultural holdings; investments on commercial companies (SMEs in particular) processing the agricultural raw materials, which results in gross value added from rural agri-food and non-agricultural economy; investments in rural infrastructure, in the technical equipment of localities and rural area; investments on afforestation of non-productive land, until an optimum forest coverage of the national territory is reached, planting forest shelterbelts on agricultural land, mainly in the counties from the southern part of the country, anti-erosional shelterbelts and protection belts of localities, circulation ways, canals and dikes; investments in the renaturalization of significant wet and green areas (natural pastures), all these coordinated with the environment and landscape protection actions; investments in the

mountainous economy consolidation; investments in generating new knowledge based upon basic and applied research; investments in rural labour training and professional reconversion; investments in the consolidation of private-family agricultural holdings, by restructuring the subsistence and semi-subsistence farms.

All the investments presented before should simultaneously generate performance, competitiveness, food security and safety, and, what is of utmost importance in periods of crisis and recession, short-term as well as medium and longer-term jobs.

### **1. Allocation of funds in the refunctionalization and modernization of efficient irrigation systems**

The refunctionalization and modernization of irrigation systems are the top investment priorities in agriculture, in Romania's present conditions. We would like to highlight this priority, as the National Rural Development Program (NRDP) only briefly mentions the rehabilitation of irrigation systems, when the consistency with the national programs is presented, placing the *“modernization of the primary irrigation network and of association forms for their functionality”* only on the sixth place.

In chapter 2 of NRDP, when presenting the general strategy, the transposition of Community priorities and the establishment of national priorities, it is mentioned *“for the continuation of the sustainable economic, environmental and social development of rural farms in Romania and of the development oriented to foreign trade, mainly to the EU trade, the general rural development strategy should focus on competitiveness increase ...”*. How? What is the modality? In the conditions of a non-performant agriculture, in the absence of investments in stable growth factors of performance on the agricultural holdings?

According to NIS data, at the end of the year 1989, in Romania, the area **equipped** with large-scale irrigation facilities totaled 3.1 million ha (21% of the agricultural area), out of which 2.9 million ha arable land (30% of the country's arable area), being on the 3<sup>rd</sup> - 4<sup>th</sup> position in Europe in this respect.

In spite of this, the expected irrigation effects on the average yields obtained in Romania could be noticed neither before 1989 nor at the present moment. In reality, the huge financial and material effort, which caused a disequilibrium in Romania's state budget for many years, was not justified due to the partial utilization of the area equipped with irrigation facilities. The irrigation systems from Romania, compared to those from the performant countries in irrigations, are characterized by extensivity and low utilization efficiency. While in the developed countries the density of pipelines is 60-90 ml/ha, in our country the density is only 18.5 ml/ha, while the irrigation yield by 1.56 lower in Romania. But the most striking difference between the Romanian irrigation systems and those from other countries (Italy, Spain, France) consists in the water losses along the canal network. In Romania the water losses through infiltration into canals and evaporation is over 50%, i.e. half of the water input in the network, while in the West-European countries, Israel, USA, the losses amount to only 10-20%. At the same time, the technical solution of water pumping, from the Danube, in two or several steps, requires a high energy consumption for the transport of water from source to crops. In most irrigation systems from other countries, the gravitational water delivery system on main canals is used, the energy being used only for water distribution from the interior canals (pipelines) on the agricultural holdings to the crops.

From the statistical data it results that before 1989, out of electric power saving reasons or because of the permanent energy scarcity, no more than 1.5 million conventional hectares were irrigated in reality. Even on these areas, the crop irrigation technology was deficient, both as regards the irrigation rate and the periods between irrigations. It is well-known that an inadequate irrigation has much smaller effects compared to the optimum rate/ average allocated rate ratio. The research work

conducted by Dr. A. Lup on the irrigation inefficiency in Romania<sup>5</sup> is relevant in this respect.

After the year 1990, the irrigation systems was physically deteriorated by clogging and deterioration of the pipe tightness, as well as through the theft of technical pumping equipment and of distribution pipes and watering equipment from the irrigation stations. The effects of this situation were felt mainly in the years 1992, 2000 and 2007, extremely dry years, when we estimate that Romania lost about 6 million tons of cereals, soybean and sunflower due to the impossibility to irrigate minimum 1 million hectares.

After 1990, besides the degradation-destruction of irrigation systems (canals, water pumping plants, pipes, art works, etc.), through the Land Law application and related regulations (Law on agricultural companies and associations, Law on the privatization of agricultural commercial companies, etc.), agriculture experienced a deep restructuring of land properties and holdings, with important implications upon the cropping technologies, upon crop irrigation implicitly. Since 1991<sup>6</sup> up to the present moment, 11.2% of the area equipped with irrigation facilities and 23.1% of the rehabilitated area were irrigated on the average, representing 775,000 ha in 1994 (maximum level) and 45,700 ha in 2005 (minimum level). In the driest years of the last two decades, only small areas were irrigated, namely: in the year 1992 – 465,000 ha (15.0%), in the year 2000 – 216,000 ha (7%) and in 2007, the year with the most severe drought – 320,000 ha (10.1%), with extremely high harvest losses (about 6-8 million tons each year). The average yields of the main cereals (wheat and maize) were 2075 kg/ha in the years 1992 and 2000, and 1540 kg/ha in 2007, representing 22-25% of the average in the European countries with similar ecologic conditions and areas equipped with irrigation facilities almost equal to those from Romania.

The studies conducted by the great specialized foreign companies (Gersar - France, Morrison Knudsen Corporation – USA, Binnie - Partener and Hunting Technical Services LTD – United Kingdom, Japan International Cooperation Agency – Jica - Japonia) in the period 1991-1995 estimated average investments for total revamping of the systems of about 1500 \$/ha (with large variations depending on the system, from 338 to 2500 \$/ha) and average investments for the endowment with irrigation equipment of about 110-115 \$/ha (from 80 to 150 \$/ha depending on the type of irrigation equipment). In the same studies, it is mentioned that, at the current electric power price, the area that had to be rehabilitated in the first ten years (1995-2004) totaled about 1.7 million hectares, as this area needed pumping – repumping of water from the Danube up to 85 m height (this being the maximum economic pumping height). In the higher areas, as is the case of the irrigation systems from Dobrogea totaling over 400,000 de ha, the irrigation cost is still non-accessible for farmers, as the estimated electric power consumption is over 2,100 kw/h/ha, and the irrigation cost is about 860-900 lei/ha.

To sum up, we consider that **the top investment priority in Romania's agriculture, which must be included on the first place in all the strategy programs of Romania's agriculture and rural development** (with national or foreign financial support) should be **the investment in the rehabilitation and equipment of the irrigation systems on 1.7 million ha in the shortest time possible (maximum 5 years).**

For the remaining area of 1.4-1.5 million ha, which represents the difference up to the total area equipped with irrigation facilities in the period previous to 1990, feasibility studies are needed by which technical solutions for water pumping should be

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<sup>5</sup> Lup, A., *Irigațiile în agricultura României*, Editura Agris, București, 1998.

<sup>6</sup> Ibidem 5.

established, as well as the necessary funds, its costs and the investment profitability for the water users.

In the situation when certain systems cannot be rehabilitated through revamping and modernization, as in the situation of the irrigation systems from Dobrogea, the renaturalization is imposed by the establishment of permanent pastures and of forest plantations (shelter belts and forests).

Considering the need to save water, in increasingly larger amounts, as well as the non-accessible cost of the irrigation water from the Danube, other urgent solutions should be adopted for the application of irrigation under the currently operating systems and for the enlargement of the new systems. In the first case, those irrigation systems should be expanded with low water consumption, sprinkle irrigation being preferred in the case of crops that are suitable for this type of irrigation. In the second case, the new irrigation systems, on lower scale compared to those built up in the 1980s, should be designed in another vision, so as to use water from interior resources (interior rivers, local accumulations, ground water), by water pumping using gravitational systems, with lower energy consumption and accessible costs for the small farmers.

## **2. The Romanian rural economy**

**The rural economy** is mainly agricultural, as the agricultural economy *per se* accounts for 60.5%, compared to 14.1% in EU. The deeply distorted structure of the Romanian rural economy also leads to a similar rural population structure by sectors of activities (primary sector 64.2%, out of which in agriculture 56.6%, secondary sector 18.5%, tertiary sector 17.1%). In the Romanian rural area, the non-agricultural economy (SMEs with industrial profile, rural tourism) has a low share, while rural tourism, in all its variants, except for certain mountain zones (Bran – Moeciu, Apuseni, Maramureș, Bucovina) and for the Danube Delta, is almost non-existent (11,000 accommodation places in about 1600 agro-tourism boarding houses).

A solution for encouraging investments in the rural area, for SMEs development in the non-agricultural economy and in the processing sector of primary agricultural products, should be the permanent concern of local authorities, by establishing, under economic decentralization and decisional subsidiarity, in the rural localities (or rural areas) with surplus labour force, of certain **village industrial microzones** with financial support at county or regional level, through their equipment with the necessary utilities for industrial activities (electric power, thermal energy, gas, water, sewerage, interior and access roads, telecommunications, etc.), similar to those existing in the EU rural areas for a longer period of time. For example, in Germany, there are local microzones that are generally parceled on the private domain of localities and equipped with the funds of town halls, on a single basis or in association. The motivation of inertia from the part of many local authorities in this field is not real. Most villages have significant areas under communal pastures, which in a short period of time can no longer be used as pastures, according to the EU regulations regarding the elimination of “collective” grazing.

The investments in the non-agricultural and food economy in the rural areas, besides the gross value added increase by processing the raw agricultural and non-agricultural materials from local resources, has another great advantage, both in the crisis and recession periods and in the economic growth periods, i.e. job creation through the utilization and stabilization of (rural) local labour force, revitalization of rural localities, mainly in the less favoured and marginal areas.

## **3. Equilibration of forest land cover**

Another priority investment, with multiple beneficial effects upon the ecologic equilibrium, environment protection, landscape improvement, carbon dioxide absorption, agricultural land protection, protection of localities, of communication ways



and of dykes, water accumulation in soil and diminution of wind power, etc. is represented by **planting trees on degraded land areas and setting up shelter belts**.

From the point of view of forest cover (26.8%), Romania is under the European average and much under the optimum forest cover level (40% as stipulated by the Forestry Code for the year 2035), although one third of the country's area is represented by mountains and one third by the Sub-Carpathian hills and the high plateaus. Besides the deficient general cover, the distribution by relief macrozones is also deficient, as in the plain zone the forest land cover is 10.9%. The most deficient in forest cover are the plain zones from the Danube Plain (counties Ialomița, Călărași, Teleorman, Olt, Ilfov, Brăila), Dobrogea (county Constanța and parts of the county Tulcea), the Western Plain (the plain areas from counties Timiș, Arad and Bihor), where the semi-desertification and desertification phenomena are very aggressive.

The National Rural Development Program (NRDP) provides that the forest cover will increase from 25.8% to 32% on the long term, without specifying its duration, which represents an increase of forest area by 1.24 million ha. In the case when the time limit for achieving this is 14 years (two EU budgets), it results that the yearly afforestation rate would be about 80.000 ha on the average.

Taking into consideration the urgent need for a zonal equilibration, mainly of the deficient plain zone, we consider it necessary to lay a priority focus upon planting windbreaks and trees on the non-productive land from the plain zones, so that the forest cover in this zone can reach 14-15%. The priority counties for planting tree shelter belts are the following: Constanța, Brăila, Ialomița, Călărași, Ilfov, Teleorman, Olt, Dolj, Mehedinți and the western zone of the counties Timiș and Arad.

Among the concerns for ecologic equilibration of Romania's territory by the increase of the permanent green land cover, carbon dioxide consumption diminution and desertification decrease, the development of areas under permanent pastures (pastures and renaturalized hayfields) stands out, mainly in the deficient zones.

In Romania the grassland area totals 4.9 million ha, out of which 3.4 million ha pastures and 1.5 million ha natural hayfields (33.2% of the agricultural land area and 20.6% of the total country's area), yet with a non-uniform distribution by the main relief units of the country: 2.4 million ha in the mountaineous and alpine zone (32.7%, 49%), 2 million ha in the hills (24.4%, 40.1%) and under 0.5 million ha (6.1%, 10.2%) in the plain (the first percentage share in parentheses represents the share of grassland in the total area of each relief unit, and the second percentage share is the share of grassland from each relief macroforms in the total grassland area from Romania).

Taking into consideration the present uncultivated areas from the plain zone, which exceed 1-1.2 million ha each year, we consider that, on the basis of a financial support from both public and private sources, the share of grassland in the plain zone can be increased to 15-16%, compared to 6.1% at present. Our opinion is that the permanent green land cover in the plain zone should be also supported by public funds, as this action has beneficial effects upon the environment, upon the diminution of carbon dioxide in the air, the landscape variety improvement, which is rather dull in the plain area; all these should also receive support from the society, through funding from the state budget.

#### **4. Investments in rural infrastructure and technical infrastructure in the countryside**

The social desertification of the rural area, mainly in the less-favoured areas (or mountain areas) is a phenomenon that has been extended on a large scale recently, to reach an alarming percentage, on the basis of rural-urban, rural-rural and rural-foreign countries migration, increasing each year. Extremely beautiful traditional villages, with a special landscape, with a non-polluted or low polluted environment, are being depopulated and are demographically and physically ageing, being in danger of

extinction due to the diminution or end of agricultural, fruit farming, sheep breeding, mining or other activities.

The rural development of rural areas, from the economic, social, habitat and cultural point of view (preserving the traditional cultural values) presupposes, in the first place, the growth of economic activities, increase in the quality of work and living conditions, through access to facilities similar to those in the urban areas, thus creating the conditions for population stabilization, mainly for the young population.

In this respect, through its strategic objective **growth of activities in the rural areas**, NRDP has in view the “development of integrated village renovation projects, targeting the development of an adequate *infrastructure and the improvement of the access to the basic public services for the rural population, on one hand, and the necessary protection, which should be brought about by a positive contribution to social and cultural activities and to the preservation of the natural cultural identity on the other hand*”. As infrastructure represents an important subsystem as well as a main condition for the sustainable rural development, implying massive financial support, this must be improved by local development projects, governmental programs, as well as by structural and cohesion instruments.

### **5. Agriculture – the backbone of Romanian rural economy**

Agriculture, in the predominantly agricultural zones, and forestry, in the rural mountainous zones represent the backbone<sup>7</sup> of rural area. No rural development program can be designed in the absence of the main role played by agriculture. Although significant changes have been produced in the role and functions of agriculture recently, this remains the main component of any rural development program. At the same time, a new vision of agricultural development appeared, leading to the shift of focus from the **productivist character** to the **multifunctional character** of agriculture.

Even though multifunctional agriculture is less performant from the strict point of view of production and profit, it is preferred from other points of view (tourism, landscape, ecology, social, etc.).

Multifunctional agriculture, in principle, carries out the same economic functions as the super intensive and specialized agriculture, while taking over new functions as well, namely:

- production of energy raw materials (as a new and extremely important function in the areas with surplus food production);
- increase of tourism capital, by the preservation and improvement of landscape heritage;
- conservation of vital elements (soil, air, water, flora, fauna), by their sustainable use, under an organic farming system which should ensure the agro-eco-system stability;
- harmonization of the social and cultural functions of the rural area in close connection to a healthy and diverse agriculture.

The development of multifunctional agriculture implies an increased number of people employed in agriculture, for longer periods of time during the agricultural year, compared to the specialized agriculture. At the same time, the organic farming presupposes the increase of production technology components with increased labour consumption, and consequently the attraction of additional labour in agriculture. It is obvious that the increase in the number of agricultural holdings (farms, individual peasant farms) that practice multifunctional agriculture cannot take place beyond the agri-food market solvency limit. It is estimated that at present, in the developed countries, 4-5% of the arable area is operated under the organic farming system,

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<sup>7</sup> Otiman, P.I., *Dezvoltarea rurală a României*, Edit. Academiei Române, 2006.

contributing by about 5-6% to the agricultural production and agri-food consumption value. As the prices of organic products are higher compared to those of the products obtained under the conventional farming system, the demand for such products is strictly limited and has a low growth rate. In these conditions, no significant increase of the organic production can be envisaged for the next 2 – 3 decades, and hence we cannot speak about a significant increase in the number of people employed on the organic farms; yet this is relevant for the new vision of agriculture and for the organic farm philosophy.

As agriculture has multiple functions, it seems natural that the society, as their beneficiary, should pay not only for the agricultural products, i.e. for food, but also for the **indirect services** that contribute to the improvement of the habitat, of the landscape, etc. The present price system, as well as the tendency to permanently reduce these prices, so as to obtain cheaper food, without using certain compensation forms for the subsidiary services, will have negative consequences upon farmers on the medium term and indirectly, negative consequences related to food security on longer term. We consider it necessary to evaluate these compensations (for tourism, maintaining the less-favoured areas “in operation”, organic farming, environment protection, diminution of chemical fertilizers and pesticides applications), the government being responsible of finding finance sources for these.

The first great energy crisis from the 7<sup>th</sup> decade of the 20<sup>th</sup> century raised new problems to agriculture. The **agricultural bioenergy production** represents an alternative to the fossil fuels, which will be exhausted sooner or later. Thus, agriculture has acquired a new function: **producer of energy raw materials**. The production of oil and alcohol based on agricultural raw materials makes the present Diesel engines, with few adjustments, use the rapeseed oil or alcohol obtained from different crops as fuel. At present, although the vegetable fuels are more expensive, as they are less polluting, the demand increased and they are more and more used.

The present Common Agricultural Policy Reform (2003) has brought significant changes to the financial support system for agriculture, by decoupling most direct payments from production and the application of new single area payment scheme calculated on the basis of historical reference data, in fact on the basis of average yields obtained in the reference period. At the same time, the new CAP promotes the closer connection of agricultural systems to the (agro)-environmental policies, the introduction of environmental standards (cross-compliance, good agricultural practice), of animal welfare standards, with a particular focus on the equilibrium between the agricultural production competitiveness, the technical and economic performance and the environment and landscape protection.

We should also highlight that a great discrepancy still exists between the new CAP reform principles and the Romanian reality. On about half of the arable land area, on the subsistence and semi-subsistence farms, rather archaic “technologies” are used; on the other half, on the agricultural associations and companies of different types, in most cases, due to obsolete and implicitly technologically worn out equipment, as well as to the deficient knowledge and information system and non-performant management (still a large part of managers, owners, farmers on the large agricultural holdings come from the former socialist agriculture, will all its “drawbacks”), deficient technologies are used, with a negative impact upon soil (and environment in a broader sense), which are more expensive and great energy consumers.

The large-sized farms, financially consolidated and with a high technical potential, should shift from the energy-intensive agricultural systems to the **conservative agriculture** system, characteristic to the sustainable use of natural

resources, of soil and water in the first place<sup>8</sup>. From the worldwide experience, we learnt that the adoption of conservative agriculture by farmers cannot take place overnight, on an *ad hoc* basis. In the first place it is necessary to have a good knowledge of the conservative agriculture system and of its advantages and to demonstrate its advantages by the extension system and by the legal and financial support to the farms applying this system.

Conservative agriculture, through the applied technologies, mainly contributes to the agricultural environment protection, to the diminution of carbon dioxide emissions and burning gases (resulting from the mechanization works), to the quasi-permanent soil coverage, biodiversity conservation, improvement of landscape and mainly of the main resource, i.e. soil.

In most researchers' opinion, conservative agriculture is a holistic concept of crop production, which takes into consideration all the agricultural technological system components: soil tillage, vegetable waste management, crop rotation, fertilization, irrigations, crop protection, harvesting and transport. Conservative agriculture excludes the conventional tillage with soil preparation for planting by completely inverting it with a moldboard plough; the soil surface must be covered by a vegetal cover or mulch throughout the year; it requires the application of long-term crop rotation that includes meliorating crop species under the background of moderate and balanced (chemical) fertilization; efficient control of weeds, pests and diseases.

The performance of farmers who adopt the conservation agriculture practice, on the short (and even medium) term, is not equal to that obtained by the farmers who apply energy-intensive technologies. However, taking into consideration the long-term effects of the conservative agriculture upon the environment, upon soil in the first place, the technical performance difference of the respective farms should be financially and fiscally supported. In the contrary case, conservation agriculture, mainly in the case of leased in or concessioned land, will remain only a desideratum, as the managers of these holdings will not apply this farming system.

## **6. Mountaineous economy – well conceived, applied and supported – an opportunity for Romania**

The mountaineous economy, through the national resources it covers, represents one of the top priority issues for Romania. If we take into consideration the fact that the mountain area covers almost 73,300 km<sup>2</sup> (29% of the country's area), out of which the forested area totals 37,000 km<sup>2</sup>, the natural grassland 24.000 km<sup>2</sup> and the arable land about 5,000 km<sup>2</sup>, with a population of 2.1 million inhabitants living on 1.2 million households, having 2.9 million ha agricultural land into ownership, the importance of the mountaineous economy can be easily evaluated.

In order to get an accurate picture of what should be done in the Carpathians on the short run, a comparison must be made in the first place between the main branch of the mountaineous economy in the Alps, i.e. the **mountain tourism economy** of Austria and Italy and the mountain tourism economy in Romania's mountain area.

Austria or Italia have an alpine area slightly smaller than the alpine area of Romania's Carpathians (54,620 km<sup>2</sup> Austria, 51,466 km<sup>2</sup> Italy), and the population in this area is almost similar to that living in our Carpathians. Yet, both Italy and Austria have more than 2.5 million accommodation places in over 100,000 agro-tourism boarding houses and hotels, where over 50 million tourists are accommodated each year, with an accommodation activity averaging 60 tourism days per boarding house. In order to be aware of the great discrepancy between Romania and Austria or Italy, we should mention that in Romania the number of agro-tourism boarding houses in the

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<sup>8</sup> Camelia Gavrilăscu, *Managementul resurselor de sol*, Editura Academiei Române, București, 2008.

mountain area totals about 1,600, the accommodation places does not exceed 11,000, and the average yearly occupation time does not exceed 25-30 days, equally shared between the winter and the summer seasons.

The extremely diverse rural landscape, well-preserved in most cases, life in the countryside, with significant traditional components, the agricultural and forestry potential of the mountain area, the specific architecture of the rural area are factors favouring rural tourism development in our country. Unlike other tourism forms, rural tourism must be “diffuse”, imperceptible from the habitat component point of view, it should be based upon the natural, folkloric and ethnographic, spiritual, (cultural, in general), architectural and gastronomic heritage specific to the rural tourism areas.

At the moment, although certain positive signals exist with regard to agro-tourism development, there are certain constraints to rural tourism development to the capacity provided by the favourable landscape and traditional culture. The constraints are the deficient **infrastructure** (highways, railways, banking and mail services, fast and safe telecommunications services), the modest **living conditions** that are unacceptable even by the less demanding tourists, **insufficient educational and training level** of household members (minimum knowledge and information in the field of tourism, of specific local quality gastronomy, not knowing a foreign language) as well as the tourists’ **personal unsafety, insecurity**, etc. The fact that only 0.1% of Romania’s rural economy comes from agro-tourism, compared to 4.4% in the EU Member States represents an obvious economic indicator for the Romanian agro-tourism situation. Significant investments are needed for putting into value the local resources (educational, financial, infrastructure, etc.).

Agro-tourism, by the internal agri-food consumption on the household where the foodstuffs have been produced, has the function to potentiate the economic capacity of the mountaineous peasant households. In the case of foreign tourists who spend their vacation on the rural boarding houses, agro-tourism represents a form of “internal” export of agri-food products. As most foodstuffs consumed in the agro-tourism activity come from the production obtained on the respective household, it results that the agro-tourism activity profitability is high, and the prices of the agro-tourism services are lower compared to other tourism forms. From the calculations effected by the specialized tourism entities, it results that in all the boarding houses, the lunch price is by 40–50% lower compared to the lunch served in a restaurant from the tourism hotel network (at the same classification level). The explanation of this price difference is quite simple. The price of the agricultural products obtained and consumed on the agro-tourism household does not include commercial margins, VAT, excise taxes, transport expenses, storage and preservation costs. The meat, the meat preparates, eggs, cheese, milk, butter, fruit jam, pickles, wine, plum brandy, cherry brandy, blue-berry brandy, etc., prepared according to traditional methods, go directly from the agro-tourism farm production to the tourist’s table. At the same time, the tourism services (accommodation, services, etc.) are not carriers of additional indirect costs, commissions, etc., which makes the price of agro-tourism product lower than the urban tourism product. The agro-tourism policies should stimulate the rural tourism advantages, on the basis of tax exemption, fiscal pressure diminution, in general, for lower prices and for maintaining the traditional customers (town people with lower incomes, foreigners willing to get familiar with the rural traditions of the respective area, town children, etc.).

The stimulation and development of the agro-tourism in the mountain area also has an educational component that mainly refers to getting familiar with the cultural traditions or landscape and historical values of the rural area. The educational component is mainly addressed to the town children who, we must recognize, suffer from the complex of urban concrete spaces. The two-week participation to the activities

on the rural household, together with hiking, swimming and bathing in clean waters, horse riding, etc. greatly contributes to the enlargement of town children's learning and knowledge horizon. In many EU countries, in the curriculum of urban schools, holiday and/or practical activities periods on the rural boarding houses are provided. It is the case of Austria, Sweden and Switzerland, etc., where this system has extremely good educational results.

In the case of mountain areas, the **mountainous agricultural economy**, the forest economy and the rural tourism are intimately intermingled. The mountainous agricultural economy, largely ecological or organic, focusing on the pastoral economy (raising of dairy cows, calves and sheep) can be mixed on pluriactivity basis with the harvesting and processing of wild berries and medicinal herbs from the wild mountainous flora; both activities can be connected to winter or summer rural tourism activities based upon the pastoral and ethno-folkloric customs, to religious activities, sports and hiking, all these representing significant modalities to increase the rural economy in the mountain areas, to best use the natural capital of the mountain areas.

The **forestry economy** represents the second great problem of rural development, in the predominantly forestry regions (forest exploitation and timber processing, harvesting and processing the forest products: berries, mushrooms, medicinal herbs, etc., the zone-specific traditional trades related to the processing of forestry products, etc.). The Romanian forestry economy is far from being an important component of the rural economy in the mountain area. In Romania's rural economy structure, the forestry economy, with all its structural components (timber harvesting and processing, harvesting and processing of wild berries, medicinal herbs and mushrooms, hunting and fishing, etc.) does not exceed 6%. The rural development projects in the mountain areas should obligatorily include solutions for the development of small and medium-sized enterprises for processing the timber and other forest products, etc. The forestry economy is still a sector that, similarly to agriculture, holds multiple functions in the forest ecosystems. Sylviculture, in correlation with agriculture, can have a complementary function or a basic economic function in certain areas.

In the enlarged **forest economy** framework, two aspects should represent objectives of the rural development programs. The first aspect refers to the increase of land areas under forests by new forest plantations, shelterbelts, maintenance of present forests; the second aspect covers the rational forest exploitation and the processing of timber into highly processed finished products with value-added. Referring to the rational forest exploitation and the processing of timber into highly processed finished products with value-added we should specify that, at this moment, Romania gets for one ton of final wood product on the average by 3.2 times less compared to the EU countries (80 €/t in Romania and 260 €/t in EU). The explanation is quite simple: a too high percentage of the forest product value still comes from the export of logs (46%) rather than from the export of furniture (54%). At the same time, the domestic market is full with the wood products of the large European companies (IKEA) and the furniture supply of the Romanian commercial companies that import a large part of these products.

The policy of the National Forest Administration, which enables the organization of auctions not conditioned by the processing of timber in Romania, is mostly damaging for Romania's economy.

In Romania, the increase of land areas under forests should be a priority for the ecologic reconstruction of many zones, as there are still too many hilly areas (Transylvania Plateau, Dobrogea Plateau and Moldova Plateau) with a low forest cover. In the plain areas, the excessive deforestation resulted in excessive aridization, steppization and even desertification in certain areas, and in massive soil erosion in the hilly areas. For these agricultural areas, the reforestation on certain land areas is

imperiously necessary out of ecological re-equilibration reasons. In the conditions of private land ownership, the afforestation should take place under long-term programs, with economic advantages for the owners. The projects targeting the afforestation and planting shelterbelts cover the local or regional (zonal) communities. The contribution to the ecological re-equilibration of properties should be paid by all its beneficiaries, i.e. either by the local or regional communities or, in case of larger-scale works, through the state budget.

An important component of the rural economy in the mountainous area is represented by the sportive hunting and fishing economy; these activities are extremely demanded and well paid by the Romanian and foreign tourists. However, these two activities, due to the absence of infrastructure and of the necessary facilities on the boarding houses, represent constraints that make the sportive hunting and fishing economy still non-competitive. Suffice it to mention that our neighbouring country, Hungary, with a mountainous area covered by forests by 7–8 times smaller than Romania's, gets by 5.5 times more incomes from the mountainous hunting than Romania.

We cannot complete the presentation of the forestry economy, as a rural economy component, without making a few comments on the conservative vision of etatist origin of the national and territorial forestry bodies. It is necessary to highlight that in the period between the two World Wars, only about 1.8 million hectares of land (about 27%) out of over 6.5 million hectares of forestland from Romania were forests into state property. Regardless of the forestland owner, this forestry ownership structure did not have a negative impact upon forest management under silvicultural system, but on the contrary. In the communist period, the entire area under forests was nationalized in Romania, and the mentality of “the superiority of state forest management under silvicultural system” continues to prevail in most decision-makers opinions.

The exemplary management of the private forests in Banat, of the compossessorates from Transylvania were soon forgotten or denied by the silviculturists nowadays. Thus, the critical condition of the localities in the mountain areas can be explained, which are largely dependent upon the forestry economy, where nothing has happened after 1989, except for forest exploitation for commercial purposes based on plane cuttings by companies managed by dishonest managers, in many cases alienated from the true interests of the respective zones. In these zones no forest ownership reform has been implemented, not even conceived. Although Romania went through several agrarian reforms, out of (false) considerations related to the forest exploitation interests, in the first place, no reform in the forestry sector has been conceived and applied, and the severe poverty condition of the people from many mountainous rural communities, extremely dependent upon the forestry economy, such as the case of the zone Penteleu in the Buzău mountains (Gura Teghii, Nehoiu, Varlam, Siriu etc.), reveals the precarious mentality in this important sector of the mountainous economy.

## **7. Investments in knowledge and education**

It is unanimously accepted that the agricultural yield (Y), from the point of view of both technical and economic performances, is the result of the convergent action of four categories of macro factors: natural capital (N), biological capital (B), financial capital (K) and human capital (M):

$$Y=N*B*K*M$$

The potentiality studies carried out in our country reveal that the current average level of agricultural yields represents about 40% of the optimum potential of natural capital (soil production capacity) and of the biological potential (production potential of cultivars, varieties and hybrids). It results that the negative potentiality difference is

determined by the other two factors, i.e. financial and human capital (technology and management). Concretely, in Romania, the average grain yield was 2700 kg/ha in the period 2000-2008. Using only 40% of the natural and biological potential (Fig.1.1.), the difference up to the optimum potential (6500 kg/ha) of about 3800 kg/ha, is equally determined by the financial capital scarcity and by the human capital deficit caused by the precarious technical conditions and the non-performant managerial and technological skills of the labour force.

From this simple, but very relevant example, it results that human capital should be optimized, by investments in labour training in agriculture, regardless of the place of its components in the agri-food system (conception, education, research, extension, consultancy, management, execution, etc.).

The surveys conducted by research structures from Romania or from foreign countries (World Bank, European Union, European Bank for Reconstruction and Development, etc.) on the precarious qualification of the labour force in the rural area, reveal that this represents a constraint to rural development. The assessments of rural labour qualification are valid for all staff categories, both executive and management staff, in all the rural (agricultural and non-agricultural) economic sectors. The share of staff with higher education that works in the rural economy is much lower compared to the necessary highly qualified staff.

The strategic NRDP objective referring to “*the improvement of the competences of farmers and staff working in the agri-food sector and silviculture that should permit a better management of agricultural and forestry holdings*” and *the related sources from the European funds* for this axis have in view labour quality improvement.

The deep restructuring that has been already been produced in agriculture after 1989 or under way and amplified after 2007, when Romania joined the EU, is the premise of a significant reform in the education and scientific research, extension and consultancy system, both in agriculture and in the rural economy, in general. As regards the issue of investments in education and research, we only briefly mention it in this paper, and it will be approached *in extenso* in other studies.

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