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ROMANIA'S AGRI-FOOD AND RURAL DEVELOPMENT STRATEGY

ABSTRACT

Romania's agri-food and sustainable rural development strategy, consensual from the political point of view, should be the output of an objective scientific analysis of the agricultural and forestry potential, and adapted, endorsed and supported by all the political and technocratic forces, under the form of a vector of development, with **important objectives and legal reform and restructuring procedures**, as support or vehicle for their implementation.

The **agri-food and sustainable rural development strategy** (vector of development) has the **governance programs** as support or implementation vehicle, which, in our opinion, should represent **a coating, a coverage** of the strategic vector and not a factor of permanent severance of the strategy, as things have happened in Romania with the successive governments in power after 1989.

The **agricultural strategy objectives** were formulated starting from the functions of the rural area and economy, of the Romanian agriculture, the need of their fast development, the new partnership between Europe and the farmers, in agreement with the CAP reform for the period 2014–2020, namely:

– **obtaining a reliable agricultural production** that should ensure the national food security and guarantee Romania's population food safety, which, at the 2020 horizon, asks for **doubling** (at least) **the agricultural yields** (average yields, 4300–4400 kg/ha compared to 2770 kg/ha conventional cereals in the decade 2000–2010) and the **crop and livestock production value** and **tripling the value of processed agri-food production**; these levels can fully meet **the domestic needs of quality food products** and ensure a surplus of 5.5–6 bln. € agri-food products available for export;

– **ensuring the ecological equilibrium** of the rural area on the long-run, in **sustainable** terms, through public, public-private or private investments in infrastructure, for the protection and equipment of the national territory (irrigation systems, field protection belts, anti-flood, anti-erosion protection hydro-melioration systems, afforestation of degraded and cleared land areas, etc.);

– **conservation and protection of useful renewable natural resources** (soil, air, water, biodiversity) and sustainable use of natural agricultural resources, of soil in the first place, as main natural renewable resource of Romania, biodiversity conservation, application of policies meant to attenuate the climate change effects;

– **balanced territorial development of agricultural rural economy** and development of agricultural and non-agricultural rural SMEs and increasing the active rural population's employment level;

– **equilibrating the Romanian food (and payments) balance and growth of the Romanian agri-food exports**;

– **diminution of less-favoured rural areas and alleviation of severe rural poverty**;

– **optimization of the agricultural production structure and of the territorial distribution** of the farming systems (intensive specialized/multifunctional/conservative; modern/traditional; ecological/biotechnological; food production/production of non-food raw products/bio-energy production);

- **agro-tourism capital growth** through the preservation of the landscape heritage of the rural area;
- **getting the national education and scientific research system compatible with the European system**, ensuring its sustainable partnership with the Romanian agri-food system;
- **elaboration of the *Law on Romania's agriculture orientation***, as legislative support necessary for carrying out the **Agricultural strategy**.

Key words: strategy, sustainable rural development, governance programs, objectives, food security and safety.

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In the period of transition to the market economy, for more than 20 years, period equally divided into the “decade of reforms” and the “decade of accession”, more than 25 documents and reports of “strategy” type were worked out.

In the first decade, the “**decade of reforms**”, the perspective of accession to the EU seemed quite far away, even though Romania had submitted the accession application in 1995, and the objectives of our country’s agricultural policies from the respective period did not have in view getting closer to the European agricultural policies as a first milestone. At the same time, the lack of financial resources in overall economy, in agriculture implicitly, did not favour a strategic approach similar to that of the developed EU Member States.

The studies on the agricultural policies in the period of transition from the command economy to the market economy mainly used economic analysis tools referring to the establishment of the private agrarian system, compatible with the market economy, the agricultural sector transformation, through the utilization of different sectoral policies; in the first decade, the focus was laid on the reprivatization of land and assets (production means) of the former cooperative farms and restructuring the state farms, while after 1996 the focus was laid on the reform of prices and subsidies, based on the trade policies. We must emphasize that the way to the market economy, of private type, was more difficult and took longer than in most ex-socialist countries, due to incomplete, oscillating and not in few cases, contradictory reforms.

In the field of agricultural policies and implementation tools, Romania has been permanently searching to respond to the short time political objectives, with a more or less electoral character, to the outside conditionalities imposed by the international organizations to which Romania aspired to be a member of. These challenges, different on the short and medium term, were practically substitutes for a strategy, or better formulated, they were arguments to justify the absence of a long-term clear and consensual strategic political approach in the agricultural sector.

The agricultural strategies that have been worked in Romania so far have generally had a sectoral approach (cereals, milk, meat, fruit-vegetables, viticulture, etc.) with more or less defined linkages between sectors or by agri-food chains (modalities to use the raw vegetable production in the livestock sector, transformation

of the raw agricultural products into finite products by the agro-processing sector, etc.). Both the horizontal and vertical flows, which target the entire agri-food sector, and which generally lie at the basis of a deep reform in agriculture, have been systematically neglected. With regard to the fundamental thematic for constructing the agriculture development policies, it is normal that once the problems are identified for each of these themes in part, different modalities, methodologies, tools should be in place, the proposed solutions being in agreement with the ideology or political vision of the parties or political alliances at governance.

In the second decade, the “**accession decade**”, the identified problems and the proposal of solving modalities for each of the cross-cut policies on which agriculture restructuring in view of accession depends, were closer to the left vision (social-democratic) or to the right vision (liberal-conservatory), namely:

- **the land policy** mainly focused the ownership reform, by coming back (with synopes and incoherence) to the private agricultural land ownership, followed by the issue of the land consolidation, organization and planning in agriculture, having in view measures for parcel consolidation through the land market and less by association or consolidation;

- **the fiscal policy** in agriculture had in view the utilization as instrument of income collection to the state budget, as well as a consolidation instrument of legally marketed production;

- **the socio-professional policy in agriculture** was the “key” to launching the restructuring of agricultural production units and of farm competitiveness increase;

- **the infrastructure and agricultural services development policy** is another mechanism by which the state can stimulate the creation of the basic framework to support agriculture competitiveness increase in Romania.

In more than 20 years of transition, both in the pre-accession and the European integration stage, Romania's agriculture evolution most often was not based on coherent policies in relation to the long-term politically assumed objectives through the agreement of accession to the EU

The purpose of the Agri-Food and Rural Development Strategy in the period 2014–2020–2030 is mainly determined by the need to establish the guiding lines for the sustainable development of the Romanian agriculture and rural area, as one of the basic components of resuming economic growth in Romania. The **Strategy** design has in view the realities of the rural area, which is both an economic area and a social, cultural and ecologic, living environment, agriculture being both an economic sector that provides agricultural products and raw materials for the processing industry and a **rural agri-culture with deep national traditions on whose conservation, continuity and development Romania's real presence in the EU will largely depend.**

Evaluating the **present situation of Romania's agriculture and rural area, Romania's EU membership and the need to integrate Romania's agriculture**

development policies into the EU Common Agricultural Policy and into the European Strategy for Intelligent, Sustainable and Inclusive Growth in the European Union – Europe 2020, we consider it of stringent actuality for Romania's economy, in general, and for agriculture, in particular, to design the **Agri-Food and Rural Development Strategy for the period 2014–2020–2030**.

The comparative analysis of the present development level of the rural and agri-food economy makes it possible to formulate a few questions necessary for the elaboration of the **Strategy**:

– Does the current level of rural economy, agricultural research and education in Romania facilitate the application of European sustainable rural development concepts included in the EU Common Agricultural Policy?

– Can the present level of Romania's economy, in general, and of the rural economy, in particular, in which a mentality hostile to cooperation still prevails, support a (mostly necessary) fast rate of sustainable rural development in Romania?

– Can the current Common Agricultural Policy and the CAP for the period 2014–2020, which does not provide a direct support for agricultural production increase in the EU, be applied as such in Romania as well, whose agriculture should reach maximum yields in the years to come in order to bridge up the performance gaps compared to the EU?

– Do the still great differences between the funding levels of the European and Romanian farmers, which are maintained in the EU agricultural budget for the period 2014–2020, attenuate or on the contrary, accelerate the discrepancies of the Romanian agricultural yields and farm consolidation?

The strategic objectives of agriculture and rural development in Romania. The **Strategy**, consensual from the political point of view, is the product of a scientific, objective analysis of the agricultural and forestry potential, adapted, endorsed and supported by all the political and technocratic forces, under the form of a vector of development, with important objectives and legal reform and restructuring procedures, as support or vehicle for their implementation.

In the future, the strategic document must be based on the governance programs as support or implementation vehicle, which, in our opinion, should represent a coating, a coverage of the strategic vector and not a factor of permanent severance of the strategy, as things have unfortunately happened in Romania with the successive governments in power, after 1989.

A thorough knowledge of Romania's present agriculture and rural economy reality is a *sine qua non* condition for the elaboration and application of a **coherent program on the medium and long term for the European reconstruction of the Romanian rural economy**, for increasing the contribution of agriculture to the attenuation of the present crisis and to resume the sustainable economic growth.

The national strategic framework, the European programs and projects for agriculture have the **sustainable rural development** at their core, as **sustainable**

economic growth factor, which presupposes a **strong rural economy**, based on a **modern rural infrastructure**, an **adequate technical equipment of the rural area of localities and rural dwellings by using the local natural resources (in the rural area) renewable in the economic circuit, environment and landscape protection** and, as their effect, **reaching an acceptable rural living standard, through the alleviation of the severe poverty in the rural area.**

The **sustainable economic development** can be reached, in the first place, only if **medium and long-term investments are made in the consolidation of farms and agro-processing units**, in advanced technologies, in the adequate equipment of the rural territory, through irrigation and desiccation systems, anti-erosion works, forest belts for the protection of fields, anti-flood systems, etc. The direct financial support from the EU and national funds should be directed for putting in effect these premises of the sustainable rural development. At the same time, the legislative, institutional and financial actions should be intensified in order to increase the competitiveness of the international and national trade circuits, to increase the participation of the Romanian agricultural products on third markets, the European Common Market in particular, as well as to attenuate the risks and turbulences caused by the annual and multi-annual production and price fluctuations. An increased focus should be laid on the extension of the regional and local market.

The **rural area development** is based on the **sustainable rural development** concept, the extension and diversification of the rural economy presupposing the harmonious blend between the **agricultural (and forestry) component and the agri-food and non-agricultural rural economy component**, based upon the following principles:

1. **Agriculture**, in the predominantly agricultural areas, and forestry, in the rural mountain areas, represent the **backbone of the rural area**. Although significant changes have been lately produced in the role and function of agriculture, this remains the main component of any rural development strategy. At the same time, as regards agriculture development, the focus must change from its **productivist aspect** to its **multifunctional character**.

2. Having in view the fact that Romania's most valuable renewable natural resource is **soil** (agricultural land), the main decision-makers of the country have the political, economic as well as moral obligation towards the present generation as well as towards the future generation, to ensure, through adequate agricultural policies, the sustainable exploitation of the soil resource at the level of its productive potential. The increase of the agri-food production and forestry economy should not be seen as an objective "per se", but rather as an objective of **providing food security for Romania's population** as well as a **prospective objective of Romania**, having in view the world demographic forecast estimated at

about 9 billion people for the next two-three decades. The increase of agricultural yields at the level of the soil (ecologic) natural potential must be obligatorily correlated with the absorption potential of the domestic and foreign markets.

3. The priority of agriculture and rural economy modernization according the **National Strategic Framework**, in our vision, should be based on the vital economic and social functions of the agri-food system: **ensuring a balanced food supply for the population (food safety implicitly), the necessary raw products for the non-agricultural activities and an active and profitable export of agri-food products, increasing the landscape resources of the countryside, while ensuring a decent living standard and environment protection.** At the same time, the **rural economy**, in general, and **agriculture, in particular, represents a huge outlet for the upstream and downstream branches**, directly contributing to the development of non-agricultural branches, as well as of the sectors related to agriculture (and forestry).

The **priorities of the Strategy for the period 2014–2030** were formulated starting from the functions of the rural area and economy, of Romania's agriculture, the need for their fast development, the new partnership between Europe and the farmers, according to the CAP Reform for the period 2014–2020, namely:

- Obtaining an agriculture and food production to ensure national food security and to guarantee the food safety for the population through:
 - doubling the agricultural yields in the next ten years, compared to the 2000–2010 decade;
 - doubling the value of crop and livestock production in the next decade, compared to the production of the year 2010;
 - doubling the value of processed agri-food production compared to the year 2010;
- Fully meeting the domestic needs of high-quality food products and obtaining a surplus of food products, available for export;
- Reaching long-term sustainable ecologic equilibrium of the rural area through public, public-private or private investments in infrastructure works for territory protection and equipment (irrigation systems, hydro-melioration protection systems, protective forest belts, afforestation of degraded and cleared land areas, etc.);
- Conservation and protection of renewable natural resources (soil, water, air, biodiversity) and sustainable use of agricultural natural resources, of soil in the first place, biodiversity conservation, application of policies targeting the climate change effects attenuation;
- Getting the national education and scientific research system compatible with the European one, ensuring a sustainable partnership between this and the Romanian agri-food system;

- Balanced territorial development of the agricultural rural economy, development of rural SMEs and employment growth, by providing support to the active rural population in the first place;
- Equilibration of the Romanian food balance (and of the balance of payments) and increase of the Romanian agri-food exports;
- Contraction of less-favoured rural areas and severe rural poverty alleviation.

Romania has only one chance for agriculture development: **massive, yet rational allocation, optimum if possible, of investment capital in rural infrastructure, agricultural territory equipment** (about 1.7 mil. irrigated ha, magistral canal for irrigations and navigation Siret-Bărăgan, planting the field protection belts on about one million hectares in the driest areas, modernization of agricultural holdings, development of enterprises for storage-processing of agri-food products (not only cereals) as well as the increase of operation capital both from own sources and from advantageous banking credits provided to agricultural holdings to support the proposed production levels for the 2015, 2020, 2025, 2030 horizons).

From the calculations made, it results that Romania has a food potential for 38.5 million persons, at the 2030 horizon, and availabilities for export and non-food consumption of agricultural raw products of about 49–50 billion €.

The scope of Romania's Rural Strategy is mainly determined by the need to establish guiding lines for Romania's agriculture and rural area sustainable development as one of the basic components for resuming Romania's economic growth.

The need of the Strategy is determined by three main factors of agriculture development:

- natural, material and human resources of the Romanian agriculture;
- ecological suitability of Romania's agricultural resources to supply agri-food products on the world market;
- need to ensure the national food security and to guarantee food safety for the population.

In one word, the construction of the **Rural Strategy** is based on three pillars: **AGRICULTURE, FOOD AND ENVIRONMENT**, each of these having a vital importance for the social peace in Romania and for the continuous improvement of the Romanian rural living.

Drawing up the **National Strategic Framework for Rural Areas** is based on two fundamental ideas if its construction:

- a) the current situation of agriculture and the ecologic and economic potential of the rural areas from Romania;
- b) Romania's EU membership and the need to integrate Romania's agriculture into the European agri-food area and to get it compatible with the Common Agricultural Policy of the EU.

a) Current situation of Romania's agriculture and rural area

We shall next present the realities of the Romanian rural area after 20 years of agrarian reforms, **the current situation of agriculture and rural area in Romania** being the result of political, economic, juridical and social actions and events accumulated throughout the 20th century, as well as of the effects of the current agricultural policy after 1989.

Four major changes (four fractures of the Romanian agricultural structures in only one century can be considered – the great agrarian reform in the year 1921, the agrarian reform of the year 1949, agriculture collectivization in the period 1949–1962 and the effects of the Land Law of the year 1991 and of its related laws) made it impossible to conceive, and mainly to implement a **long-term agricultural project in Romania**, similar to that in most (West) European countries. The major successive system changes resulted in the instability and, which is most critical, in the absence of continuity, stability and sustainability of the national agricultural system.

The effects of the agricultural policies (reforms, restructuring, adjustment), applied on a contradictory basis, lacking continuity after 1989, generated a fluid, non-structured, non-performant, non-competitive, mostly subsistence agriculture; this situation was accompanied by a shift from the large-sized farming units (state farms, cooperative farms), characteristic to the Eastern European socialism, to the large farming units (associations, companies) in an early stage of capitalism with a total area of more than 5 million hectares into ownership.

The prevailing reality of the Romanian rural area is marked by serious economic and social phenomena, the most obvious being the following:

- **disagrarization**, as a result of non-farming the agricultural land and turning it into idle land (about 1.5–1.7 mil ha/year), disuse of natural pastures, which grew wild (over 1–1.2 mil ha), of the vine and fruit-tree plantations, utilization of only maximum 8–10% of the country's irrigation potential;

- severe **decline of livestock production importance** in agriculture, by the drastic diminution of livestock herds, loss of their genetic potential, destruction of most livestock production premises, etc.; the share of livestock production in total agricultural production reached about 35%;

- obvious **social and physical desertification** of the rural area, depopulation and strong demographic ageing of the rural population, decline of agricultural labour force in quality and professional terms;

- existence of huge **poverty pocket**, which is growing larger in many rural areas from Romania;

- **the rural economy is mainly a primary economy**, agriculture accounting for about 60% of its structure (compared to about 14–15% in EU), with negative effects upon the employment of active rural population, low processing level of agricultural raw products and consequently low value added and low taxation of agricultural and food production;

– quasi-total disappearance of the social rural economy (handicraft cooperatives, small village handicraft workshops and private family workshops providing services); this phenomenon resulted in about one million small rural craftsmen becoming unemployed or being obliged to retire before their due retirement age;

– **rapacious exploitation of forests**, mainly in the areas with the most valuable forests of the country: Susana, Haughtier, Murmured, the Pausing mountains;

– lack of real **administrative autonomy and decentralization** (administrative subsidiarity) in the case of rural development (either local or regional), which is a true “chimera” in Romania’s case. All the rural development programs (European, national, regional or local) are evaluated, approved and funded only at Bucharest, by the ministries. This aspect results in huge promotion, funding and execution costs, and furthermore, it generates permanent and sustained corruption (most often under coverage and with political control), absence of transparency, equity and equilibrium.

The analysis of causes that generate major deficiencies in rural development, technical and economic non-performance in agriculture reveals a chronic scarcity in the allocation and utilization of funds, of production factors, together with a defective management on most agricultural holdings and agricultural commercial companies and agro-processing SMEs, as well as great deficiencies in the management of the chains taking over, storing, processing and marketing the agri-food products (agricultural market operation).

The effects of **capital scarcity** are materialized into low agricultural yields, compared to those in the EU: 40–45% of average cereal yields, 35–40% of the value of primary agricultural output (800–900 €/ha in Romania versus 1800–2000 €/ha in EU) and only 1 € processed food production obtained from 1 € primary agricultural production, compared to 2.5 – 3 € in EU.

The analysis of the **Romanian agri-food consumption** data reveals negative aspects from the economic and social point of view, both for agriculture and for the general economic balance of the country:

– the share of food expenses in total population’s expenses (about 40–45%) is maintained at extremely high levels, with values twice as high compared to the EU-25 average and almost 2.8–3 times higher compared to EU-15 average;

– although the share of food self-consumption was significantly down, from 64.9% in the year 2000, to 41% in the year 2007, it is still the highest in EU-27, three times higher compared to the EU-15 Member States;

– in absolute value, the food consumption per capita in Romania is at the minimum level of subsistence, with 9.41 RON/day (about 2.24 €/day) in 2009, much under the daily consumption (by about 2.2–2.5 times lower) of the average consumption level of the EU countries;

– **the food expenses from imports have a too high share, unacceptable for an agricultural country like Romania** (17.9% of the food consumption and 34.1% of the cash food expenses).

The value of foodstuffs imported by Romania reached 4.66 billion euro in the year 2012, while the share of imported food products in Romania's population's food consumption increased from 11.4% in the year 2000 to 25.1% in 2008, yet down by 3.3% in the year 2009, due to the diminution of imported food consumption as a result of the population's incomes diminution.

It is important to highlight that more than **60% of Romania's food imports are products that could be obtained from the domestic production: meat and meat preparations (more than 32% in recent years), grains and wheat flour (maximum 20% in 2003, yet 8% in 2007), soybean and soybean oilcakes (almost 50% of the necessary amounts after 2005, when the cultivation of GMO soybean was banned; in the period 2001–2004, the trade balance in soybean and soybean oilcakes was positive), fresh vegetables, fruit and flowers (8–12% each year in the period 2000–2009), sugar, tobacco, hops, etc.**

The constraining factor in Romania's agriculture is represented by the **assets and operating capital**: the endowment of a Romanian farmer is by 16–17 times lower on the average compared to a EU farmer (540 € /farmer in Romania compared to 9000–9200 €/farmer in EU); the operation expenses in cereals account for 50.5% in Romania compared to France, while the banking credits provided to the Romanian agricultural holdings are 15–16 times lower compared to the credits provided to the EU farms (110€/ha in Romania and 1700–2000€/ha in EU).

b) On Romania's EU membership and the requirements of Romania's agriculture integration into EU CAP

The technological performance gaps, measured by the average yield/ha in cereals, are obvious not only when we take into consideration its low level but also by its strong fluctuation and instability. In countries like France, Italy and Germany, an **annual production differential** (difference between maximum and minimum yearly yield) of about 1300 kg/ha is noticed in the cereal crops, in an average multi-annual yield of 6300 kg/ha (20.6%); by comparison, in Romania the maximum differential is 2000 kg/ha, in an average multi-annual yield of only 2770 kg/ha (74.1%), which undoubtedly proves the lack of performance and the great yearly agricultural fluctuations in Romania, as well as the unacceptable dependence on the weather conditions.

The **non-performance of the yearly agricultural yields** is generated in the first place by the **still (too) high dependence on the annual weather conditions** (meteo-dependence of agricultural production) as the irrigation systems are largely degraded and non-functional, by the precarious farm endowment in irrigation equipment and the high cost of irrigation water, as well as by the **use of obsolete agricultural technologies**, with low application of performance enhancing inputs (fertilizers, crop protection substances), as well as of obsolete equipment from the point of view of energy consumption and productivity. The drought, which is increasingly frequent, negatively impacts the agricultural yields, mainly in the Romanian Plain, Dobrogea and Moldova, where the largest irrigations systems are found, built up in the period 1960–1990, yet non-functional or non-utilized for about 20 years.

Rural development objectives and priorities: horizon 2014–2020–2030

In the EU rural regions, economy is significantly influenced by the agricultural activity, and the construction of the **Strategy** under the three priorities of post-Lisbon Agenda is based on the following:

- **intelligent growth** – development of knowledge and innovation-based economy (the technological research and development combined with the efficient utilization of existing resources enhance productivity);

- **sustainable growth** – promoting a more efficient economy from the point of view of resource utilization, more competitive and greener, may lead to the supply of “public goods” (e.g. habitat conservation, biodiversity and rural heritage maintenance) that can contribute, in the envisaged areas, to job creation through agriculture extensivization and supply to local markets;

- **favourable growth of social inclusion** – promoting an economy with a high employment rate, which should contribute to social and territorial inclusion (about 13.6 million people are directly employed in agriculture, forestry and fisheries and other 5 million are employed in the agri-food sector, summing up 8.6% of total jobs in EU and 4% of EU GDP).

EU agriculture is confronted with a series of problems generated by the economic crisis, namely:

- food security problems concerning high discrepancies in production and distribution;

- impact of price volatility upon costs and prices, both for the buyers of agricultural products and for farmers;

- price variations that are not reflected in the food chain;

- productivity decrease and trade deterioration;

- pressures for production intensification due to cost increase;

- attenuation of climate changes and adaptation, conservation of natural resources, improvement of resource efficiency and sustainable development at all levels.

These would be the reasons why the CAP Reform should approach both the market and the political failures, in the context in which:

- the markets need more transparent signals;

- the policies should target new challenges;

- productivity and innovation should target sustainable growth.

The **European Strategy for Smart, Sustainable and Inclusive Growth – Europe 2020** establishes the modalities by which CAP must solve up the above-mentioned challenges.

The *economic* field will have as political objective the **viable production for food** that should contribute to agricultural income increase and limit its annual and

multi-annual fluctuations. Price and income volatility as well as the natural risks are much more pregnant than in other sectors, and farmers' incomes and profitability are at lower levels than those in the other sectors.

The improvement of the agricultural sector competitiveness must consolidate the position of this sector in the **food chain**. The agricultural sector is fragmented compared to other sectors in the food chain, these being better organized and with a greater bargaining power. Furthermore, the European farmers have to face the competition on the world market, at the same time having to comply with high environment protection, food safety and quality and animal welfare standards.

The compensation of production difficulties in the areas with **specific natural handicaps**, as a high land abandonment risk exists in these regions. Although the greenhouse gas (GHG) emissions in agriculture have decreased by 20% since 1990, sustained efforts are needed to reach the EU Agenda energy and climate objectives, in order to cut the GHG emissions, to adapt and bring a positive contribution by carbon sequestration and biomass production, based on innovation. Climate changes, soil depreciation, water and air quality, habitats and biodiversity should be also approached.

As regards the *environment and climate changes*, the political objective is represented by the **sustainable management of natural resources and attenuation of climate changes** that should guarantee the sustainable production practices and to ensure the supply of **public goods that respect the environmental conditions** as many public benefits generated by agriculture are not remunerated through a normal operation of markets, to favour the innovation-based ecological development – **green growth**, which requires the adoption of new technologies, development of new products, change of production processes and support the consumers' new expectations, to have in view **the actions reducing the effects of climate changes**, as well as to permit agriculture to adapt to climate changes. As agriculture is particularly vulnerable to the climate changes impact, a better adaptation of this sector to the effects of weather fluctuations can reduce the negative effects of the weather changes.

Even though a great number of *rural areas* are increasingly influenced by factors external to agriculture, this remains the engine of the economy in most European countries. The vitality and potential of many rural areas remain strongly linked to the existence of a **competitive and dynamic farming sector**, attractive for the young farmers. This particularly holds true for the predominantly rural areas, where the primary sector accounts for about 5% of the value added and 16% of the number of employees in the new member states, where it is very important to consolidate the recent productivity growth as well as to reach the full agricultural potential. Furthermore, agriculture plays an important role in the rural areas by

generating additional economic activities, mainly in close connection to agro-processing, tourism and trade. In many regions, mainly in the new member states, agriculture is both the backbone of the rural economy and the foundation stone of local traditions and social identity.

The European programs and projects for agriculture have the **sustainable rural development** at their core, as **sustainable economic growth** factor, which presupposes a strong rural economy, based on modern rural infrastructure, an adequate technical equipment of the rural territory, localities and dwellings, the utilization of local natural resources (from the rural area), renewable in the economic circuit, environment and landscape protection, and, as an effect of these, a decent rural living standard.

The new philosophy of rural area development is based on the **sustainable rural development** concept, which presupposes the harmonious blending of the **agricultural (and forestry) component and the rural agri-food and non-agricultural economic component**, based on the following principles:

- concordia between the rural economy and the environment (economy-ecology equilibrium);
- the sustainable, durable development programs should include a medium and long time horizon;
- diversification of the agricultural economy structure, through pluriactivity, in the first place by expanding the agri-food economy, the non-agricultural economy and rural services;
- naturalization of rural area, by the most intact preservation of the natural environment;
- the anthropized environment, created by humans, should be as close as possible to the rural natural environment;
- the utilization of local natural resources in the rural economic activity, of renewable resources in the first place.

Having in view the balanced geographic structure of Romania's agricultural land resources, the distribution by relief units, the ecological areas of our country enable a balanced practice of the different farming systems (intensive, organic, multifunctional, conservative, biotechnological), and out of this reason the strategy should decide upon the forms of agriculture and agrarian and rural structures that Romania should develop:

- **what type of agriculture Romania should practice, for what kind of social and economic future of the country?**
- **what type of agriculture, for what kind of environment?**
- **what type of agriculture, for what type of rural development?**

- **what type of farming structures, so as to make them comparable and competitive with the West-European ones?**
- **what kind of agrarian policies should Romania promote so as to get them compatible with those from the European Union?**

If we strictly refer to the present orientation of Romania's agriculture, after the accession to the EU, the dilemmas are even more numerous:

- **conventional and/or biotech agriculture;**
- **conventional and/or organic agriculture;**
- **modern and/or traditional agriculture;**
- **family and or/large-scale agriculture;**
- **semi-subsistence (subsistence) and/or commercial agriculture;**
- **intensive and/or conservative agriculture;**
- **multifunctional and/or monoculture agriculture;**
- **food and/or biofuel production.**

Starting from the agricultural performances and the low development level in Romania, seen on a comparable basis in time with those from the EU, we consider that these are at the level of the West-European countries *from the period 1955–1960* and consequently, Romania's agricultural strategy should focus on **farm consolidation and the massive increase of agricultural yields** in the first place, through massive investments in the Romanian agri-food system.

Intensive farming. Romania should place the development of **intensive farming** in the favourable ecological areas at the core of its agrarian policies. Without increasing the technical performances of agriculture in the crop and livestock production sectors up to the average level of EU-15, at 2020 horizon, and to the average level of the countries with a developed agriculture, at 2030 horizon, Romania's food consumption will continue to depend on the Community agri-food trade.

Organic farming, as variant of multifunctional agriculture, presupposes the increase of the production technology components with an increase labour input, and consequently, the attraction of additional labour force in agriculture. It is estimated that at present, in the rich countries, organic farming is practiced on about 4–5% of the agricultural land area, and due to the much higher *eco* product prices, **one cannot expect a significant increase of areas under organic crops, on a “massive ecologization” of agricultural production implicitly in the next 2–3 decades.** As a result, the increase in number of rural population employed on organic farms cannot be significant, yet it can be relevant for the new concept of agriculture and for the organic farm philosophy.

Multifunctional agriculture, even though from the strict point of view of yields and profit is less performant for the farms that practice it (compared to

intensive farming), it is preferred from other points of view (tourism, landscape, environment protection, ecologic, social). Multifunctional agriculture, in principle, complies with all the economic functions as in the case of intensive and specialized farming, yet acquiring new functions, namely:

- conservation of vital biodiversity elements (flora, fauna, soil, air, water), through their sustainable use under ecological farming practice that ensures the stability and preservation of agro-eco-systems;
- harmonization of the social and cultural functions of the rural area, in close relation to a healthy and diverse agriculture;
- production of energy raw materials (new and extremely important function in the areas with surplus food production);
- tourism capital increase, through the landscape heritage preservation and enrichment.

Multifunctional agriculture presupposes the use of an increased number of persons employed in agriculture, in longer periods of time throughout the agricultural year, compared to intensive, specialized, conventional agriculture.

The conservative agriculture, through the applied technologies, essentially contributes to the agricultural environment protection, diminution of carbon dioxide and combustion gas emissions (due to the mechanical works), quasi-permanent green cover of soil, biodiversity conservation, landscape improvement and enrichment, and to the optimum use of the main agricultural resources – soil and water in particular. Having in view the long-term effects of conservative agriculture upon the environment, upon soil in the first place, the technical performance difference of the respective farms **must obligatorily get financial and fiscal support**.

Agriculture source of green energy. The first far-reaching energy crisis in the eighth decade of the 20th century, as well as pollution diminution represent new challenges for agriculture. **The bioenergy agricultural production** is one of the energy alternatives to the crisis of fossil energy sources, which will be exhausted on shorter or longer term; thus, agriculture has acquired a new function: **producer of raw energy materials**. The EU directives provide for the increase in share of biofuels from 2% of total energy consumption in the year 2007 to 10% in the next ten years and to 20% after 2020.

Biotech agriculture. The accelerated evolution of research in genetic engineering and biotechnology had a direct effect in agriculture, materialized into the unprecedented assimilation of scientific results, resulting in the increase of areas under genetically modified crops (GMO crops), used both for increasing the production of foodstuffs and for the increase of agriculture share in energy economy. As regards the energy function of agriculture, we consider that the major

income of **biotech agriculture** on farm economy should be highlighted. In 15 years (1996–2010), the world area cultivated with GMO crops (soybean, maize, rapeseed, cotton) increased by about 10 mil. ha/year, to reach 150 mil. ha in the year 2011. Having in view the ecological structure of the national agricultural area, Romania has the possibility to cultivate about 500,000 ha with GMO soybean and about 1.5–2 mil. ha with GMO maize (out of the 3 mil. ha under maize crop), these resulting in a gain of agricultural value of at least 2.5–2.5 billion € for the export of concentrated feed /maize and soybean kernels and soybean oilcakes).

As agriculture has multiple functions, it is obvious that the society, as beneficiary of these functions, should pay not only for the agri-food products, i.e. foodstuffs, but also for the **indirect services** that contribute to environment protection, habitat and landscape improvement, etc. The current price system, the removal of subsidies for making food cheap, **in the absence of financial compensation forms for the subsidiary services of agriculture**, will have negative consequences upon farmers on the medium term, and indirectly, unfavourable effects with regard to food safety on long term.

The mountain economy, through its national resources, represents one of the economic and social problems of first importance for Romania. As Romania's mountain area covers about 73,300 km² (29% of the country's area), out of which 44,300 km² under forests, 24,000 km² under natural pastures and about 5,000 km² under arable land, where 2.1 million people are living, on 1.2 million households who have about 2.9 mil. ha agricultural land into ownership, we can relatively easily assess the mountain economy importance for our country.

The mountain agricultural economy, the forestry economy and the agro-tourism economy are most intimately intermingled in the mountain area. **The mountain agricultural economy**, mainly ecological or organic in its most part, based on pastoral economy (raising dairy cows, young cattle and pastoral activities related to sheep raising), can be mingled, through pluriactivity, with harvesting and processing of wild berries and medicinal herbs from the country's spontaneous wild flora, and both connected with agro-tourism activities in winter or summer time or related to pastoral, ethno-folkloric, religious, spiritual activities, outdoor sportive and hiking activities; all these represent significant adding value modalities in the mountain rural economy, modalities to put into value the natural capital of the mountain areas. A well-conceived, applied and sustained mountain economy can represent an opportunity for Romania, on the condition that the governmental support policies are adequate to the mountain area.

The forestry economy must be based on three fundamental directions for the regeneration and increase of the country's area under forests, namely:

- limitation of annual cuttings to maximum 15–16 million m³ timber volume;

– annual planting schemes targeting an average national forest coverage of 40% by the year 2035 (Forestry Code provision), out of which at least 15% coverage in the plain area;

– increasing the timber processing, so as to reach the average European level per cubic meter (260 €/m³ in EU versus 80–90 €/m³ in Romania in 2010).

In order to reach sustainable rural development, the implemented schemes must ensure a rational administration and conservation of resources under the conditions in which *climate* is changing globally and locally, *population* is steadily growing and the natural *resources* are limited. The design of overall projects must have in view hydrological and relief criteria, in order to eliminate the random, chaotic and subjective interventions and actions, to take into consideration the current water management, land reclamation, forestry and tourism (archaeological sites) infrastructure, the technical infrastructure, etc. Besides the agricultural activity, the projects should integrate all the activities included on a delimited area, having as main objective the sustainability of resources and environmental conditions.

In the projection of **strategic objectives** of the agri-food system development in Romania, the determination (**forecast**) of the following **synthetic indicators** was taken into account:

1. **value of primary agricultural production** (crop and livestock) and its structure;

2. **value of agri-food production** and its destination: domestic food consumption, export/import of foodstuffs;

3. **forecast of food consumption/capita/year** in Romania;

4. **population fed** from agri-food production (Romania's inhabitants, food for export);

5. **capital investments** per hectare for Romania's agri-food production support.

The forecast of the main synthetic objectives of the agri-food system strategy was based on calculation algorithms for the following **production factors**:

– ecological **resource utilization**;

– **investment capacity** in technological factors (irrigations, production inputs, agricultural environment protection);

– primary (crop, livestock) **agricultural production structure**;

– **index of primary agricultural production processing** into finished food products;

– population's **agri-food consumption value evolution**.

Table 1
Evaluation of the Romanian agri-food system production capacity
(horizon 2015, 2020, 2025, 2030)

Crt. no.	Item	Strategic horizons				
		2010	2015	2020	2025	2030
1	Ecological resources utilization level	0.39	0.50	0.61	0.72	0.83
2	Average yield of conventional cereals, kg/ha	2,770	3,500	4,270	5,040	5,810
3	Useful arable area, thou.ha	11,000	11,000	11,000	11,000	11,000
4	Agricultural production in cereals equivalent, mil. t	30.5	38.5	47.0	55.4	63.9
5	Agricultural crop production value, bln. €	12,410	15,670	19,130	22,550	26,000
6	Crop production /livestock production ratio	0.35	0.40	0.45	0.50	0.55
7	Agricultural livestock production value, bln. €	6,680	10,450	15,650	22,550	31,800
8	Primary agricultural production value, bln. €	19,090	26,120	34,780	45,100	57,800
9	Agricultural production processing coefficient	1.04	1.28	1.52	1.76	2.00
10	Agri-food production value, bln. €	19,850	33,430	52,870	79,380	115,600
11	Food consumption, €/capita/year	1000	1500	2000	2500	3000
12	Food consumption, bln. €/an	18,300	33,000	44,000	55,000	66,000
13	Population supplied with foodstuffs from domestic production, mil. Inhabitants	18.3	22.3	26.44	31.75	38.50
14	Import/ Export, mil. €	-1,550	+430	+8,870	+24,380	+49,600

Thorough and long standing scientific research, carried out both in Romania and in other countries, proved that **there is** a correlation between the ecological (natural) potential that expresses soil (ecological environment), the economic potential that expresses the size and quality if capital invested in production factors (inputs) quality and the obtained harvest (outputs).

In Romania's case, the experts in ecological and economic soil assessment from the Academy of Agricultural and Forestry Sciences demonstrated that the ecological potential of arable land is 7,000–7,100 kg/ha conventional cereals (ecological potential utilization level ($K_e = 1$), while in the case of France the ecological potential is 8,250 kg/ha.

The present (1990–2010 average) utilization level of arable land natural potential is 0.39 (2,770 kg/ha), this level being determined by two restrictive factors: value per hectare of agricultural inputs (about 700 euro/ha, compared to 1,400–1,500 euro/ha in France) and the drastic diminution of irrigated areas (which at present are insignificant, i.e. under 3% of the arable land area and under 8% of Romania's area equipped with irrigation facilities).

It undoubtedly results that the primary factor of Romania's agriculture underdevelopment and mediocre performance is represented by the **precarious allocation of investment capital and operating capital**, which results in production underperformance (low average yields per hectare and animal head, about 35–40% of the EU average), which do not put into value the ecological (natural) potential of the most important natural resource of Romania: **agricultural land**.

It must be unequivocally specified again, as article of faith of those who conceived the **Strategy** for the country's rural development, that Romania has only one chance for agriculture development: **the massive, rational and optimum allocation of investment capital in rural infrastructure, agricultural territory equipment** (about 1.5–1.7 mil. irrigated ha, planting of shelter belts for field protection, about 1–1.2 mil. ha in the driest areas), **modernization of agricultural holdings** through the energy base renewal and the renewal of agricultural equipment, **development of agri-food products storage-processing enterprises**, as well as the **operating capital increase**, both from own sources and on the basis of advantageous banking loans provided to the agricultural holdings, to support the proposed production levels for the time horizons 2015, 2020, 2025 and 2030 (Figures 1–8).

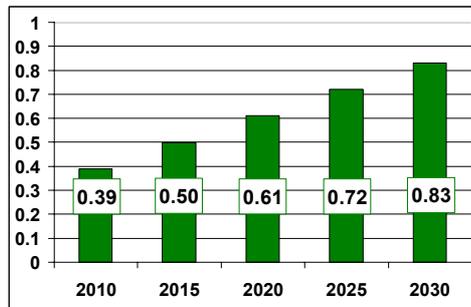
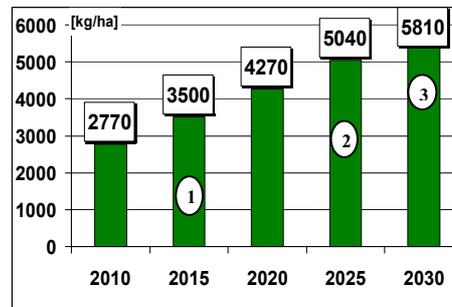


Figure 1. Crop production capacity forecast – cereal equivalent.



1. Average cereal yield EU-12 (1960–1965)
2. Average cereal yield EU-27 (2005–2010)
3. Average cereal yield EU-15 (2005–2010)

Figure 2. Average cereal yield forecast.

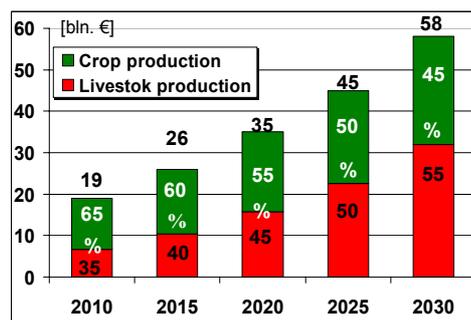
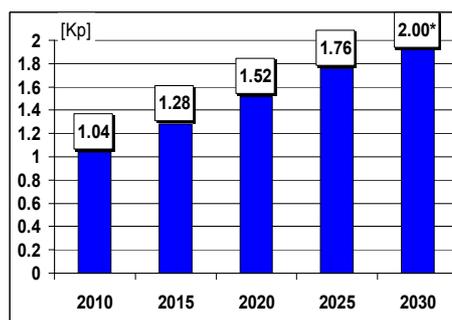


Figure 3. Agricultural primary production value and structure forecast (crop + livestock).



* EU-15 average (2010) (€ FP/€ AgP)

Figure 4. Agricultural production processing coefficient forecast.

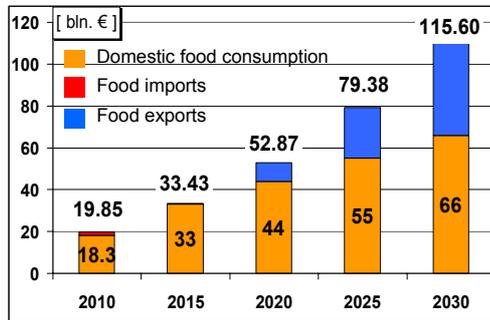
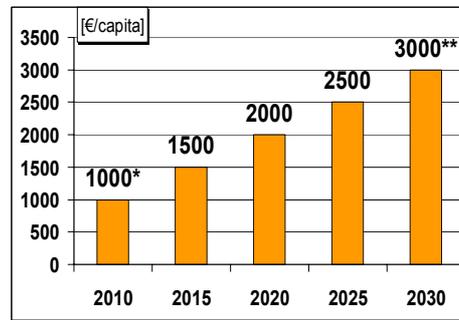


Figure 5. Agri-food production and domestic food consumption forecast.



* food consumption in Romania, 2010

** food consumption in EU-15, 2010

Figure 6. Annual consumption forecast €/capita.

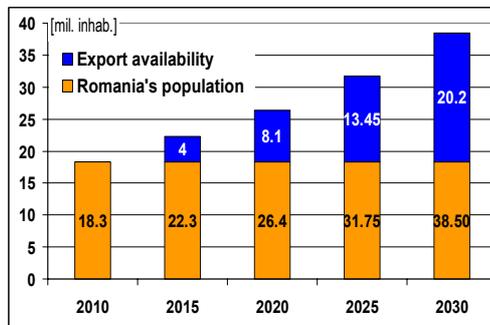


Figure 7. Forecast of population fed from Romania's agri-food production.

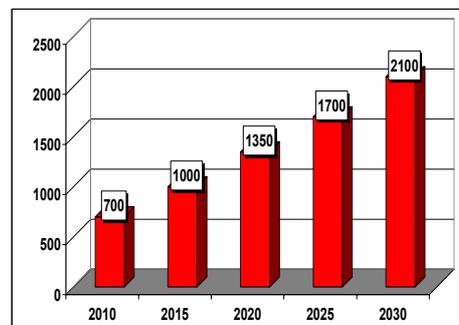


Figure 8. Capital investments – euro/ha.

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