AGRICULTURE DEVELOPMENT STRATEGY IN ROMANIA; CASE STUDY: HORTICULTURE

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Abstract

In 2014, the Ministry of Agriculture and Rural Development has published its strategy for developing agri-food sector in the medium and long Horizon 2020-2030. The document presented the current state of development of agriculture and agricultural products processing industry compared with the agricultural situation in other European countries. The document insists on the challenges that face them food sector, namely climate change, population growth, rural population decline, aging European population and that of our country. In the present study we analyzed the document and bring new data and our vision of the current situation and development prospects of two important sectors to ensure a healthy diet, fruit growing and vegetables respectively.

Keywords: *agriculture strategy, fruit, vegetable, total production, average yields, climate change.*

JEL Classification: *E 23, A 13; Q18*

Introduction

The strategy for developing agri-food sector in the medium and long Horizon 2020-2030 - prepared by the Ministry of Agriculture and Rural Development aimed at unlocking the potential of smart and sustainable agri-food and rural development, being a visionary support document that sustain progress in agriculture and rural development in Romania. The strategy underlying the new financial programming for period 2014-2020 as Romania's commitment to the EU to achieve the common agricultural policy.

In view of this document, the three most important strategic objectives outlined in the responses of a large number of participants are:

(i) strengthening farms and removing constraints on market land (34.4% of participants);

(ii) increasing the country's agricultural potential (22.1%), and

(iii) reducing rural poverty (16.5%).

Improve the institutional and policy framework must pursue:

(i) support cooperation between farmers (30.8%);

(ii) improving the efficiency of agricultural administration (26.2%), and

(iii) modernization of education research and consultancy services in rural areas (23.4%).

Worldwide identifying a moment of transformation, we come out strong long-term challenges which require a vision and decisive action. World population growing, increasing pressure on natural resources and global warming causes a new framework. In Europe, aging is also an additional challenge. This will have profound implications on agriculture and rural areas. While global demand for food is rising, increased urbanization, the increasing prices on inputs, pressure on water resources and increased vulnerability of crops and livestock in food production to climate change will be limited agricultural production. It is forecasted that global demand for food will increase by 70 % by 2050 due to population increasing and increasing revenue. Developing countries will contribute most to this trend, their food demand will double in the next years. It is estimated that global population will increase from 7 billion, as it is today, to 9 billion by mid-century, and 95 % of this growth will occur in countries least developed.

World agricultural systems will face increasingly more negative effects of climate change (changing rainfall patterns, extreme weather events, water shortages) and the price

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volatility. On the other hand, increased agricultural productivity can be achieved through investment, research and innovation, good agricultural practices and appropriate public policies.

In contrast to the global trend, it is expected that the European population will age and will stagnate. Romania will be one of the countries most affected by this trend. By 2050, the total romanian population is expected to decline to less than 18 million, which represents a decrease of 10% compared to 2011. In the medium and long term, it is estimated that climate change will increasingly affect Romania more and its agricultural sector. Romania will have to expect a steady increase in mean annual temperature, similar to projections for Europe, which may vary between 0.5°C and 1.5°C by 2029 and between 2.0°C and 5.0°C to 2099, depending on the global scenario. It is expected that rainfall patterns change significantly and produce a differentiated territorial impact in Romania. The northern part of the country will likely achieve productivity gains in the medium term crops, but will be subject to higher winter flooding and problems due to lack of water in summer. South and southeast of Romania will be worst affected, while heat waves and droughts will lead to an overall decrease in productivity of plant production sector.

1. National context and the main strategic directions of development of agriculture

Agriculture plays an important role in Romania, based on population size and employment of rural labor. Approximately 45.7 % of the population lives in rural areas in Romania, compared to approximately 23.6 % in the EU27. About 30 % of the population is engaged in agriculture, compared to approximately 2 % in the old member states (EU-15) and 3-14 % in the new Member States (EU -8). There are major differences between rural and urban areas, the first being marked by significantly higher levels of poverty and a lower standard of living adequate. Agricultural development and provision of public goods in rural areas is therefore essential for Romania's European integration and social cohesion objectives.

Compared to other EU countries, the agricultural sector in Romania has a relatively high value added (GVA) but lags behind in terms of productivity. At 6%, the share of agriculture in total GVA is significantly higher than in other European Union member states (EU -27 = 1.8% in 2012). However, between 2000-2012, the share of agriculture in total gross value added decreased from a range of 12-14% to 6%, while the share in total employment fell from 40% to 30.6%. Labor productivity remained so behind in comparison to other sectors of the Romanian economy is also far behind the EU average. Romanian productivity is only 4719 euros per FTE compared to an average of EUR 18 925 in the EU27 (2010 to 2012). Romania suffers from one of the most pronounced structural division of land between all EU Member States and is the only new Member State where half of the total standard production is carried out by farms which realizes less than 8,000 euros a year.

Romania has certain structural features similar to those of the agricultural sectors in other EU countries, but is unique in its size category gap between large farms and small farms and by the prevalence of subsistence agriculture. Average yields for the major agricultural products are only a third or half of those registered in the EU15.

The strategy for developing agri-food sector in the medium and long term vision Horizon 2020-2030 suggests that *Romania is to have a sustainable and competitive agri-food sector, centered on the export of products with high added value, which provides welfare and good living conditions in the countryside close to those of urban areas*. In this respect, Romania should capitalise favorable global and European trends and its own competitive advantages. Also, Romania must maximize the opportunities and benefits that can achieve through the implementation of CAP and participation in the EU market and on the third countries. At the same time, Romania will manage both the main internal constraints and identify the external factors such as climate change.

Agriculture and rural development in Romania in 2030 targets a consistency between agriculture, environment and rural development through smart and sustainable exploitation of agricultural land, labor and capital.

Directions and strategic objectives mentioned in Strategy:

A. Increase of competitiveness of agri-food sector

Romania is one of the European countries with the most favorable pedo-climatic conditions for the production of quality agricultural production and in significant quantities, which may cover a significant share of the domestic demand for food. Despite the considerable natural potential, yields in Romanian agriculture are modest, indicating a use of factors of production is below the optimum. Exploited properly, existing potential agricultural allow employment in a more productive manner, thus contributing to reducing rural poverty and the elimination of income disparities compared to those in urban areas. As a result, it creates conditions for economic growth, effective management of financial resources and establishing a positive trade balance. The competitiveness of food products have to be associated with sustainability. Losses caused for agriculture and national economy in general by dangerous meteorological phenomena have been the main argument for the approach, especially in recent years, for active interventions in the atmosphere.

More than half of Romania's agri-food imports consist of finished products, of which 60 % came from EU countries. Meat, sugar and dairy products together accounted for 25 % of Romania's total imports in 2012, and its exports of agricultural products was dominated by cereals (33%), cigarettes (12%) and oilseeds (11%). Although it is a net importer of agricultural products from 1990, Romania has managed to significantly reduce the trade deficit specific to this sector in recent years (2009+).

A.1. Strategic Objective (1): Accelerating structural transition towards economically viable agriculture in parallel with environmentally friendly agricultural practices and the progressive reduction of the workforce in agriculture.

Impact indicators

Indicator	Setpoint		
	2010	Target 2020	Target 2030
The share of utilized agricultural area under cultivation of economically viable farms (whose production standard is higher or equal to 2.000 euro) (%)	77,4	83	Min. 90
Labour productivity in agriculture (lei/person)	13343,7	14270	16200

A.2. Strategic Objective (2): Increase coverage of food consumption from domestic production and regaining status of net agri-food exporter

Impact indicators

Indicator	Setpoint		
	2010	Target 2020	Target 2030
Agri-food trade balance for both agricultural commodities and processed agricultural products , for 3-4 years in a row (million euro)	-746	+	+
The value weight of products processed / finished in agri-food exports (%)	30	54	60
Ratio between food industry GVA / GVA agriculture	0,907	1,15	1,25

In 2013, agri-food commercial balance was positive, with a surplus of about 331 million euros, mainly due to plant products. The trade deficit in agricultural products dropped by nearly 19 percent in the first five months of 2015 (34.4 million), compared to the similar

period last year, due to higher exports by 16 %, according to the Ministry of Agriculture and Rural Development. Romania's exports of food products were registered in the first five months of this year a level of 2,05 billion, while imports exceeded with 12.8% recorded in the same period last year, totaling 2.198 billion euros. Romania recorded in 2014 the second year with positive balance in trade of agricultural products. The surplus was 514.3 million euros, up by almost 60% compared to the positive balance of 324.9 million euros achieved at the end of 2013. Throughout 2014, Romania exported agro-goods totaling 5.409 billion euros, 311.5 million euros more than the previous year (+ 6.1%), while imports amounted to 4.895 billion euro, have increased more slowly, exceeding by 2.6% the value of 2013.

Problems/development needs and measures in the horticulture and vegetable growing

The strategy identifies like a significant problem- *cultivation decline in the fruit growing and increasing too slowly surfaces with greenhouses and plastic tunnels.* Currently, most orchards are aging, older than 25 years with low productive potential, declining or abandoned. More than half of them are exploited extensively (classic). Production technologies are uncompetitive, outdated, resulting in insignificant quantity of fruit production and lower quality. Areas of orchards have had a downward trend, the main limiting factors being particularly costly investment for establishing a plantation, along with high maintenance costs of the fruit plantation.

Existing surfaces of greenhouses and plastic tunnels providing only a small part of the necessary vegetables for domestic consumption during the winter season. Climate change due to global warming, especially at regional level, requires a rethinking of the concept of consolidation and development of vegetable growing in protected areas in Romania. *To resolve the issue it is proposed the investment support for protected areas (greenhouses, solariums) for vegetable producers* .

Stimulating the niche market sector - production of vegetables in the cold season by increasing area with greenhouses and plastic tunnels, with the adoption of new constructive types and upgrading technology will enable the culture more productive and and getting top quality productions. The measure continues the medium term by investing in such areas, with the EAFRD support through the RDP 2014-2020. Researchers plan to increase areas under polytunnels from about 7,500 ha currently, at 20,000 hectares by 2020, with a growth rate of 1500-1700 ha/year.

Another problem identified *is that agricultural research system is not working effectively.*

In the past 20 years, Romanian agricultural research lost much of the agricultural land needed both experiments and production of biological material and received less funds so as decreased investment by making it uncompetitive in Europe. Although the network is relatively extensive research (60 institutes and research centers, using 30,000 hectares in which 530 researchers work, agricultural research system in Romania does not solve entirely the needs of farmers. Farmers benefit only a part of research results due to insufficient dissemination efforts and channels. Agricultural Research Network should be modernized and aligned with future development trends.

The current problems of the research are:

(i) chronic underfunding (only 11.7 million euro of the state budget, complete with research units own revenues and research grants) ;

(ii) restructuring, that very much time consuming and inadequate transition process (lack of a framework law in 1990-2002, followed by subsequent amendments to the law on research) and then a gradual reduction of the land areas administered by the Research Units – indispensable for development research, innovation and multiplication of biological material ,

(iii) the low attractiveness of the research profession, contributing to a steady decline in the number of researchers.

Developing research in horticulture requires:

- to develop a realistic program to strengthen the research profile ;
- to be granted the necessary funds so that this sector contributes significantly to the progress of Romanian horticulture .

The envisaged measure is *to support investment in research, development and innovation*

The strategic priorities for 2020-2030 aimed at reorganizing agricultural research system to a more sustainable in terms of financial and pursuing closer integration in European research networks. These means to provides funding for 2% of GDP (1% public +1% private) for research.

MARD manages sectoral research and development plan and is considering creating its own agricultural economic research body applied. Integration of component research, development and innovation is based on a functional link between advisory services and research institutions and research carried out in universities. This approach is mutually beneficial to the parties involved as it allows promoting and supporting applied research by farmers, while research structures can be used for technology transfer partnerships. This will be correlated with agricultural extension system.

National Strategy for RDI 2014-2020, based on a broad public consultation identified the *following priority intervention areas for research: horticulture; animal husbandry, veterinary, fisheries and aquaculture; sustainable production of field crops; meteorology*. Remember that in the agriculture research, the first area is horticulture. Romania must become an important pole of innovation in the European Innovation Partnership in agriculture (PEI) by using genetic resources and sustainable technologies throughout horticultural production chain.

2. The strategy for the development of orchards

The small volume of investment in fruit growing sector is the result of low incomes per household in rural areas (euro 503 -2011), caused by the reduced number of jobs available in rural areas (in 2012 to 57.9% of total employment in rural areas were own-account workers and unpaid family workers, something that is associated rather with subsistence farming and lack of alternatives than entrepreneurship. Other factors that determined the small volume of investment have limited access to financial resources. **Poor association and cooperation** for the production and especially for the selling products in the common is another important factor that negatively affected the recovery of production, product quality, supply inputs and thus revenue growers. In 2013 there was only 14 associative, 3 producer organizations and 11 producer groups granted preliminary recognition of which only 8 cover only products of the fruit tree. In 2011 was recognized under the legislation, the National Interbranch Organization "Prodcom – Vegetables and fruits". It brings together associations from the vegetables, fruits, mushrooms and processing industries.

Production and consumption In the last period, total fruit production has progressed relatively steadily, with a maximum in 2011 of 1479.9 thousand tons and the minimum in 2007 and 2012, with 1085.8 thousand tons, and 1128.6 thousand tons, respectively, due to severe weather conditions such as drought, hail or frost in late spring. Although the climatic conditions allow the growth of a significant number of species, according to statistics, the main species grown are apple and plum orchards which in 2013 amounted to about 83% of the area planted with trees and 77 % of fruit production (Table 1). Poor diversification of product mix leading to a shortage of fruits produced locally for both fresh consumption and processing and export. In the case of most tree species, yield per hectare in Romania is much lower than in the EU27 (ex.:2011, when average production in Romania for the apple crop was only 54 % of EU average 27 (without Ireland) , and in 2012 approximately 46% (EU 27 without Italy and Ireland). Fruit consumption in Romania is on average about 70 kg per year per capita.

Trade with fruits and fruit products

Due to the specific climatic, areas reduced occupied by new orchards and storage facilities with inadequate conditioning (in terms of quantity and quality), domestic production of fruit can cover the demand only third and fourth quarters, the first two quarters it was covered largely from import. For peaches and nectarines, in 2012, imports were more than three times higher than domestic production and export quantity was less than 4% of the amount imported.

In international trade in apples and apple products recorded a significant trade deficit, in 2012 imports exceeded exports by over 31 thousand tons. The domestic production of apples in 2012 was 462 900 tons and Romania also imported 103 200 tons, while exports (mainly for industrial processing for juice) reached 71 900 tons. It should be noted that some types of fruit, such as cherries, sour cherries, nuts, etc. are required to export more, but current production capacity in Romania is still below demand .

Table 1. Cultivated area and fruit production in Romania

Year	2007	2010	2012	2014
Total area- thousand ha	206,0	198,6	142,2	145,4
Total Production - thousand tons	1085,8	1419,6	1128,5	1115,2
Average yield- kg/ha	5270	7148	7936	7670
The area cultivated with apple trees -thousand ha	61,3	56,0	55,4	57,5
Total production of apple - thousand tons	475,4	552,9	462,9	535,1
The average production of apple- kg /ha	7755	9873	8355	9306
The area cultivated with plum trees- thousand ha	83,8	69,0	68,5	70,7
Total production of plums - thousand tons	372,6	624,9	424,1	404,3
The average production of plums- kg /ha	4446	9056	5607	5718
Area planted with other species -thousand hectares	60,9	73,6	18,3	17,2
Total production of fruit from other species - thousand tons	237,8	241,8	241,5	175,8
Average yield fruit of other species - kg /ha	3905	3285	13196	10220

Needs addressed by sub-sector thematic program for fruit growing

1. Increase the area occupied by orchards and nurseries, rejuvenate existing plantations and diversification of product range;
2. competitive fruit farms;
3. products with high added value and jobs in fruit growing areas;
4. producer groups and functional cooperation of farmers and fruit-growing sector actors;
5. research, development and innovation adapted to the needs of fruit growing sector and a sector adapted to climate change;
6. Easy access to appropriate financial instruments for farmers, micro and small enterprises in the areas of fruit;
7. Attention to the next generation of fruit growers;
8. appropriate knowledge in the fruit growing sector;
9. advice and consultancy services tailored to actual market requirements;
10. restructuring of small fruit farm, farm market oriented;
11. risk management in agriculture;
12. Basic infrastructure and adequate services in rural areas of tree areas.

The main fruit growing sector needs concerns restructuring and increasing competitiveness.

This restructuring and conversion of tree species plantation must be done in order to have a larger area with new and modern orchards. Increase competitiveness will have to

consider the modernization of farms which can not perform activities necessary to obtain a fruit production to market requirements, and integrating production, storage and/or processing and sale at the farm level and modernization of other units processing.

As shown in the SWOT analysis, there are the same features of the fruit growing sector and the agricultural sector as a whole, particularly as regards the high degree of fragmentation of areas, reduced average size and insufficient technical equipment. In particular, elements of this sector lies in the significant areas of orchards aging and declining (Table2), slow rejuvenation of plantations, low capacity of the existing systems of storage to cover the needs, difficulties in the development of products due to a lack of cooperation between producers and the low level of their association.

Also, the sector is characterized by the reduced number of integrated recovery, low level of innovation generated by poor adaptation of research to the real needs of the sector, the aging of the population in areas of fruit growing, systems consulting and transfer undersized.

Table 2. Indicators of fruit production in our country (2013)

The age structure of orchards (years)		**The degree of intensity of plantations**		**Number of fruit trees farms with surface**	
1-10 years	7,5%	superintensive	1,9%	between 5 and 10 ha	50.281 farms
10-25 years	18,7%	intensive	29,7%	More than 50 ha	2.895 farms
More than 25 years	73,8%	extensive	68,4%	Nr . farms which holdings orchards	379.550, with average area 0,38 ha.

Priority 3: organization food chain, including processing and marketing of agricultural products; Area of Intervention 3: Improving the competitiveness of primary producers through better integration in the agri-food chain through quality schemes , increasing added value of agricultural products , promoting local markets.

Selected measures

• *Investment in fruit farms*. Aimed at increasing the investment potential of these holdings as well as equipment, machinery, irrigation systems on farm and processing at farm level and through investments that lead to increased area occupied by orchards and/or conversion of existing plantations in the municipalities eligible under Sub-Thematic Programme orchards and within short supply circuits , groups and producer organizations and interbranch organizations.

• *Support for producer groups in the fruit growing sector*

• *support investments in fruit processing sector*, for the establishment of processing units at local level which will help increase the number of jobs available in the areas of ochards.

• *Investments in physical assets in the fruit growing sector*. This measure is supported modernization of the agricultural machinery, processing units, increasing energy efficiency in buildings of fruit growers, stimulating the production of energy from renewable sources by fruit growers and processing plants and the use of irrigation systems with consumption low water, which will help reduce energy and water consumption and thus reduce GHG emissions or to reduce pressure on the water sources.

• *Support the establishment of orchards has an important contribution to the protection of soil desertification, landslide prevention, but also in carbon storage* in both the ground and in the trees;

• *Cooperation* in the fruit growing sector;

• *Innovation in orchards* could provide effective solutions, innovative varieties resistant to drought, techniques and cultivation systems that limits the number of interventions on the ground or reducing water loss from the soil, preserving and promoting genetic potential domestic, lowering energy consumption and the amount of chemicals used, decrease the risk of erosion and biodiversity.

3. Strategy for the development of vegetable growing

Vegetables are a basic component in the diet of the population and in this regard vegetables farming as a branch of horticulture, is of strategic interest. In support of this rule is that Romania consumes annually 50% more vegetables than fruits and grapes together. Every day in our menu are always present several species of vegetables: tomatoes, onions, carrots, various greens, etc. National Strategic Framework for sustainable development of the agri-food sector and rural areas in the period 2014 -2020 -2030, launched on July 2013 for public debate at State Presidency mentions first main objective - ensuring food security and safety by ensuring full domestic demand, improved food quality and obtain a surplus to domestic food consumption , available for export.

Vegetable products as a result of activity in vegetable growing, is a necessary component of the strategy. Vegetable food are appreciated primarily by acid-base balance, the contribution predominantly carbohydrates, presence of vitamins in almost all classes known, which requires the maintenance of vegetable on forefront the national objectives. Romania has fertile lands, water sources -and not least- sunlight, our country being in the European B sunshine. It is estimated that in our climatic conditions can grow 74 vegetable species. And the truth is that until 1990 Romania was a country with a strong vegetable growing sector, and exported hundreds of thousands of tons of vegetables. Only in 1986 were exported 600,000 t! Among the countries the so-called "socialist camp", Romania exported the largest quantities of processed tomatoes.

Table 3. Areas planted with vegetables in Romania (2007-2014 , thousand ha)

Year	2007	2010	2012	2014
Total vegetables	253,4	252,2	258,9	239,0
Tomatoes	46,0	49,8	49,7	44,0
Dried onion	34,1	33,8	33,1	30,0
Dried garlic	11,5	12,8	11,4	
White cabbage	46,1	47,0	49,1	48,0
Peppers	18,6	21,0	19,9	18,0
Watermelons and melons	31,0	31,5	31,4	
Other species	66,1	56,3	64,3	99,0

The way things evolved, in terms of organization and change of climate and have led to significant reduction in area under vegetables. Tables 3 and 4 present the current situation of cultivated areas and yields obtained, according to the Statistical Yearbook for 2007-2012, and according to MADR, data for 2014. By the same sources, in table 5 are presented average yields for the main vegetable species.

Table 4. Total production of vegetables in Romania (2007-2014 , kt)

Year	2007	2010	2012	2014
Total vegetables	3116,8	3863,6	3535,3	3807,0
Tomatoes	640,8	768,5	683,3	711,0
Dried onion	325,0	369,1	345,3	387,0
Dried garlic	49,9	67,2	59,4	
White cabbage	893,2	961,2	987.9	1123,0
Peppers	184,9	243,5	207,1	229.0
Watermelons and melons	408,0	662,9	554,6	
Other species	615,0	791,2	697,7	1357,0

Table 5. The average yields of vegetables in Romania (2007-2014 kg / ha

Year	2007	2010	2012	2014
Tomatoes	13.916	15443	13761	16159
Dried onion	9526	10908	10454	12900
Dried garlic	4359	5250	5223	
White cabbage	19364	20858	20135	23486
Peppers	9931	11592	10381	12722
Watermelons and melons	13161	21055	17659	
Other species				13707

Researchers in vegetable growing believe that a forecast vegetable and vegetable production areas is somewhat different than that officially reported, proposing to table 6. From this table it can be seen that although the surface of vegetables in Romania has decreased considerably, though total output is enough good.

Table 6. The situation "probable" of vegetable production in Romania at the 2012

Species	„Probable" area ha	Average yield t/ ha	Total production, t
Cabbage	23.000	37	851.000
Tomatoes	12.250	45	551.250
Root vegetables	10.000	27	270.000
Pepper	9.500	30	285.000
Dried onion	8.000	33	264.000
Aubergines	5.000	36	180.000
Cucumbers	4.500	50	225.000
Green bean	3.000	5	15.000
Green peas	1.000	3	3.000
Dried garlic	500	10	5.000

This is due to the protected vegetable sector nearly doubled in the last 15 years, reaching about 7,000 ha. This explains the high average yields on tomatoes, cucumbers, peppers and eggplant, eventually leading to an overall average of 32.5 t / ha, which would put us on a 4th place, more honorable and real hierarchy in European countries producing vegetables.

Note that according to the data released by the NIS, the average vegetable Romania ranges from 12 to 16 t/ha, production which is far from reality, even if we take into account the means of production available to small farms, applied old technologies, their precarious financial strength and not least the lack of an organized national market for vegetables. But even with average yields shown in Table 6, they are significantly lower than those achieved in countries with advanced vegetable growing.

The causes of backwardness of Romanian vegetable growing are multiple. One is that farmers benefit only marginally research results due to insufficient dissemination efforts and channels. The Agricultural Ministry believes that the network of agricultural research needs to be modernized and brought in line with European development trends. Currently, MARD manage R & D Sectoral Plan and envisages integration of the research component, development and innovation with consulting services as well as promoting and supporting research required by farmers.

We believe that the production *of vegetables to Romania in 2020 should submit the following parameters:*

- Average consumption of vegetables: about 190 kg /capita /year;
- Population: about 19.1 million inhabitants;
- Need fresh vegetables: 3.629 million t / year;
- Import of vegetables from necessary consumption: about 200,000 t / year;
- Total domestic production: 4,400,000 t / year, of which:
- a vegetable field 100,000 ha x 24 t / ha = 2,400,000 t / year;
- a protected vegetables (greenhouses, solariums)20,000 ha x 100 t/ha = 2,000,000 t/year;

- Surplus for export: 971,000 t / year.

For vegetables sector *to reach mentioned parameters need to be developed a set policies* that take into account:

- Change global and regional climate;
- The actual situation of irrigation systems and methods;
- The current endowment with machines and equipment;
- The average - poor information and providing advice to growers.

With an average production of vegetables 32.5 t / ha at this time, we can not ensure a minimum consumption of 150 kg vegetables /capita, without importing 233,000 t /year. And if it were to increase consumption at 170 kg, when imports should more increase.

What should be done? We believe that sustainable development of protected vegetable crops (crops mulched with plastic, covered temporary, high and low tunnels and, why not, heated greenhouses) is as a real alternative to farming and to obtain necessary vegetables in Romania. A tripling of solariums cold surfaces may be one objective, knowing that vegetables are the best insurance protection against weather damage. It is necessary to increase this area to about 20,000 ha by 2020 (the year that will not be subsidies), with an annual rate of 1,500-2,000 ha. Actually, in the world there are 16 million ha protected crops, of which China holds more than 10 million ha, increasing surface 7 times in the last 20 years .

Construction and modern technologies in protected culture of vegetables can provide:

- fresh vegetables throughout the year ;
- increase earliness (100-300 %) and total production (100 %) ;
- obtaining top quality products ;
- optimum temperature and water regime ;
- reduce water loss and soil nutrients ;
- reduce pressure attack of pathogens and pests;
- increasing diversification opportunities ;
- reducing specific energy consumption (30-50 %) ;

Obtaining vegetables with adequate nutritional and taste qualities for Romanian consumers will be achieved by tripling the share of domestic biological material. Starting from the genetic heritage we have, funds are needed for the modernization and improvement work in genetics and breeding vegetables. For ensuring production of quality vegetables need a significant increase in the consumption of mineral and organic fertilizers.

References:

1. Dumitrescu M. et al., 1998. *Producerea legumelor.* Ed. Artprint, Bucureşti, p. 9
2. Lăcătuş, V., Luminiţa Nicoleta Cârstea, 2012. *Plastic protected vegetable crops, the best assurance against climatic changing.* Proceedings of the 2nd international workshop of The Environment & Agriculture in arid and semiarid regions. Constanţa, 6-7 sept., 353-360.
3. Lăcătuş, V. Costache, M., Scurtu, I., Glăman, Gh., 2013- *Legumicultura românească-prezent şi perspective*, Hortus magazine nr. 12
4. Lăcătuş, V., Scurtu, I. 2014- *Protected crops, an efficient solution for romanian vegetable development* Current Trends in Natural Sciences Vol. 3, Issue 5, pp. 20-26
5. Scurtu, I. 2014- *The need to continue vegetables breeding in Romania in the years 2015-2025*,**.** University of Agricultural Sciences and Veterinary Medicine " Ion Ionescu de la Brad " Scientific papers, Horticulture Series Vol . 57 Nr . 1, pp. 51-57
6. Scurtu, I., 2014- *Main natural resources sustainable management of agriculture* - „Management strategies" magazine nr. 4 (26).
7. Scurtu, I., et al. 2015 – Cercetarea, factor hotărâtor al dezvoltării legumiculturii româneşti-, Hortus magazine nr. 14, pp.33-42
8. I. Scurtu , V. Lăcătuş, 2014 *Some aspects regarding vegetables breeding in Romania in the years 2015-2025* Current Trends in Natural Sciences Vol. 3, Issue 5, pp. 42-49

9. Scurtu I.- 2015 *Vegetable growing - hobby and benefit for aged person health* Current Trends in Natural Sciences Vol. 4, Issue 7, pp. 13-22,
10. Scurtu, I., Lăcătuş V. 2013- *Romanian vegetable growing–present and prospective for 2020-2025* „ Management strategies" magazine, special nr. /2013 pp. 272-279
11. Vînătoru C., Scurtu I. 2014 - *Realizări şi obiective de viitor în ameliorarea tomatelor în România* Universitatea de Ştiinţe Agricole şi Medicină Veterinară "Ion Ionescu de la Brad" Iaşi Lucrări Ştiinţifice Seria Horticultură Vol. 57, Nr. 2 Pp. 35-40
12. www.prezidency.ro, 2013 - *Cadrul naţional strategic pentru dezvoltarea durabilă a sectorului agroalimentar şi a spaţiului rural în perioada 2014 -2020 -2030.*
13. www. madr.ro - Strategia pentru dezvoltarea sectorului agroalimentar pe termen mediu şi lung Orizont 2020-2030