

# AGRICULTURAL STRATEGY

## INTERNATIONAL EXPERIENCE AND LESSONS FOR GEORGIA







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Policy, Advocacy, and Civil Society Development in Georgia (G-PAC)  
საზოგადო პოლიტიკური, აღმოფრთველობისა და სოციალური საზოგადოების  
განვითარებასა და სკოლიკურობის

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# ABOUT THE PROJECT

The report, ***Agricultural Strategy: International Experience and Lessons for Georgia***, has been prepared by the Economic Policy Research Center (EPRC) within the framework of the program Policy, Advocacy, and Civil Society Development in Georgia (G-PAC) implemented by the East-West Management Institute (EWMI) with the financial support of the USAID.

The report mainly reviews experience of Macedonia, Serbia, Croatia and Albania in providing supporting measures in the field of agriculture. Based on the analysis of various countries' experience the report presents lessons applicable for Georgia in the field of agriculture in general, as well as for the specific sub sectors (Wine and Wine Grape, Fresh Vegetables & Vegetable Processing, Fruits, Berries & Citrus and Livestock Dairy/ Beef).

Given paper can serve as a good starting point for the Government of Georgia in shaping its long-term agricultural strategy.

# MAIN FINDINGS

- The share of agriculture in the economies of target countries has been decreasing due to an increase in other industry sectors and economic transformation trends. However, the sector still has major implications for the profiled countries socio-economic development. The share of agriculture in gross value added (GVA) and employment is high in Albania, Serbia and Macedonia;
- The small-scale and fragmented nature of farming remains a general characteristic in all of the countries;
- The increase in agricultural production in the selected countries is mainly due to a rise in yields over the last decade. However, productivity is significantly lower than in the EU. Further development of the agricultural sector mainly depends on the emergence of more professionalized farmers with increased access to resources, investment capital and support for modernization;
- Governments in the Central and Eastern European Countries (CEEC) have been addressing the problems in the agriculture and food sector since the beginning of transition. The first phase of interventions responded to the immediate political and economic crises by providing emergency relief and key production resources to farmers. The second phase addressed key constraints for commercialization. Now they are looking toward the EU to transform the agriculture and food sector;
- The EU supports agricultural and rural development under the common agricultural policy by using two "Pillars." Pillar 1 provides agricultural market and income support using decoupled direct area payments as the primary mechanism for support. Pillar 2 seeks to raise competitiveness of the agriculture sector and provide opportunities to the wider rural population through rural development programs, which should be the key to economic transformation of Georgia;
- CEE countries have been funding heavily their agriculture and food sectors through national budgets and EU pre-accession support. Results have been mixed across countries. Some countries were more successful in transformation, while others to less extent. CEE countries mainly used Pillar 1 measures that seldom are found to increase competitiveness and develop rural areas, while Pillar 2 measures on the other hand are found to promote sustainable and competitive agriculture. These are not visible as direct farm payments, but they build a foundation for long-term competitiveness and their benefits trickle down to a wider set of beneficiaries over a longer horizon.
- Countries which have utilized Pillar 1 measures to improve the uptake of Pillar 2 measures were more successful in transformation than those heavily using Pillar 1 measures. Further, relatively successful countries have focused support policies on competitiveness enhancement and paid particular attention to addressing the challenge of the presence of small fragmented farm holdings, establishing mechanisms for the increase in their commercialization;
- Positive development in those countries which have been using extensively Pillar 1 support measures was that these countries have started decoupling of support measures and switched to per hectare and per head payments and have tied these measures to issues like food safety, genetic improvement, and quality, etc. allowing to link subsidies with better management of consumer protection and competitiveness;

- Compared to the EU, budget support for agriculture is still low, with the exception of Croatia, which provides subsidizing and budget support at the level close to the EU average. Export subsidies are used in Serbia only. Croatia and Macedonia use direct payment schemes according to the EU rules. Rural Development support is mainly intended for restructuring and modernizing agriculture through investment support;
- Comparing viney support measures in targeted countries versus Georgia it's obvious that targeted countries have implemented much more complex, fundamental measures to ensure growth in quality and quantity, alignment to international market needs. At the same time, Georgia has been focused only on subsidizing of grape harvests, providing financial assistance to wine factories and promoting Georgian wine in the international market by active advertising;
- Unlike the targeted countries, specific support policy for Fresh vegetables & vegetable processing was not implemented in Georgia during last 10-15 years. At the same time this particular sub-sector in our opinion is among those few sub-sectors with comparative advantage. Considering similarity with targeted countries concerning sub-sector structure, primary production fragmentation, we suggest targeted measures undertaken in Macedonia and Albania to be applicable for Georgia. These measures include supporting green-house operators in terms of modernization and compliance with international quality assurance standards;
- Considering fruit production in Georgia, situation is much like to the issue with vegetables production. Only citruses, mainly mandarins were among the priorities of government policy. The Croatian experience is extremely valuable in case of mandarin's production. Mandarins sub-sector in Georgia is characterized by significant gap concerning quality standards acceptable for international markets. Subsidizing and/or other financial support measures cannot guarantee positive effect without significant improvement in the quality of yields. Hence, for further development some specific measures are crucial to implement, such as provision of extension services, promotion for co-operation, improvement of technological and infrastructural base;
- Georgia is a net importer of the milk and meat. Only poultry and eggs partially meet domestic needs. Some basics such as livestock registry and veterinary service development should be done to provoke the sub-sector development. Serbia and Albania may be good examples for Georgia in this case. Special attention should be paid to improved production techniques, improved breeding, feeding and overall animal health care;
- Considering CEEC achievements and shortfalls, it is proposed for Georgia to adopt a holistic approach and design support measures providing balanced focus of support on small scale farmer commercialization, production, processing and service infrastructure upgrade and development, enhancement of public services, and facilitation to the development of non-farm income generating activities in rural areas;
- Another factor with negative effect on efficiency in primary production is land fragmentation. The same problem was observed in all targeted countries (though, fragmentation level is much higher in Georgia). It is crucial to establish farm registry and formalized land market. Government should support the development of farmer cooperatives or other forms of cooperation;
- Commercialization of the sector is one of the key factors for development. After analyzing the value chain, we can see that simple structure is prevailing, especially in fruit and vegetable production.

# METHODOLOGY

To impose and localize international experience, we have to ensure the “pears to pears” principle. Taking into account transition character of the economy, comparable size (population), similarity of agricultural sub-sectors and implemented significant reforms, we have decided to be focused on Central and Eastern European Countries (CEEC) – Macedonia, Serbia, Croatia and Albania. Targeted countries except Croatia are not members of The EU. Even Croatia with entry year of 2013 cannot be considered as the EU member in this survey, which covers last decade of development and transition for these CEE countries. Besides targeted countries, we will provide brief analysis for the EU new member states. The experience of some EU new member states in the context of sub-sectorial development may also be very useful for Georgia. The figures for particular countries may differ by dates but are relevant for comparison in the context of long-term development. Upon the finalization of a general assessment, a shortlist of potential subsectors in the targeted countries for profiling was generated.<sup>1</sup> or 2 subsectors for each targeted country were selected. Selection of the same subsector in more countries was avoided, in order not to engage in comparative evaluation of similar sub-sectors. Each shortlisted sub-sector was selected on the basis of several indicators

- Those subsectors leading in exports (monetary and volume terms)
- New subsectors with high potential
- Similar subsectors in Georgia, in which, we think Georgia might have a competitive edge

# INTRODUCTION

In the previous part we discussed the current stance of the Georgian agriculture sector in the context of sub-sectorial program development. The programs implemented in Georgia provide with very useful information for analysis. At the same time, such information is not always relevant, considering transition character of the agro sector in the country. For developing general or sub-sectorial strategy it is necessary to identify main challenges of the sector and how these challenges can be met based on local and international experience. After analyzing the current stance, several key factors, which, in our opinion are preventing sector development are the following:

- Absence of the formal, structured land market;
- Land fragmentation;
- Low quality infrastructure;
- Lack of efficient financial instruments;
- Lack of technology/"know how".

In fact, these hindering factors are not unique for Georgia. Similar problems have arisen in various countries at different stages of their development.

In the table #1 key statistical data for targeted countries and Georgia are shown. These data for targeted countries are based on world Factbook 2009, 2010 and 2011. The figures for Georgia are based on Geostat data for 2011.

**Table #1 Key Statistical Data**

	<b>Macedonia</b>	<b>Serbia</b>	<b>Croatia</b>	<b>Albania</b>	<b>Georgia</b>
Population	2,082,370	7,276,604	4,480,043	3,002,859	4,469,200
Population - Urban	59%	56%	58%	52%	53%
Population - Rural	41%	44%	42%	48%	47%
GDP per Capita (US\$)*	4,962	5,964	14,435	4109	3230
GDP per Capita, PPP (US\$)**	11,749	11,731	20,286	9,121	5,417
Agriculture GDP % of Total	10%	11%	5%	21%	8.8%
Total Labor Force	942,400	2,920,000	1,717,000	1,053,000	1,959,300
Agricultural % of Labor Force	20%	22%	5%	48%	45%
Unemployed % of Labor Force	31.00%	23.40%	17.70%	13.30%	15.1%
Total Area	2,571,000 Ha	8,836,000 Ha	5, 659,000 Ha	2,875,000 Ha	6 970 000 Ha
Total Agricultural Land	1,076,000 Ha	5,055,000 Ha	1,300,000 Ha	1,204,029 Ha	3,023,500 Ha***

\*World Bank data 2011; \*\*World Bank data 2011; \*\*\*Ministry of Economy of Georgia 2011

As we can see, targeted countries and Georgia are more or less similar in size, distribution of urban and rural population. On the other hand, a significant difference in GDP per capita, especially in case of PPP, is obvious. GDP per capita, the share of agriculture in GDP, total number of labor force and share of agriculture in labor force may be one of the best and easy ways to asses and compare agriculture development levels between the countries. In this case, Croatia is very close to the EU standards, while Georgia and Albania are in the bottom of the list.

# OVERVIEW OF TARGETED COUNTRIES

During the last 10-15 years the targeted countries experienced faster economic growth than the EU, averaging an annual GDP growth of between 2.7 and 6.1 % (compared to 2 % in the EU 27). Croatia had a GDP per capita close or even higher compared to the level of some of the new EU Member States. The share of agriculture in the economy has been decreasing due to an increase in other industry sectors and economic transformation trends. However, the sector still has major implications for the profiled countries socio-economic development. The share of agriculture in gross value added (GVA) and employment is high in Albania, Serbia and Macedonia. All profiled countries have high natural potential for agriculture. However, in many instances the potential is underused both in terms of technology applied and value added. A significant portion of the territory of all targeted countries qualifies as less favorite areas, which are mitigated with production of high value crops and labor intensive agriculture.

All targeted countries share the global rural depopulation and rural aging trends, leading to reduction of the workforce in the rural communities. In the long run the depopulation processes may affect future production. At the same time, the large share of rural population and the rural development measures will limit the negative effects. In addition, due to the relatively small sizes, all targeted countries favor partial inclusion of the urban population in agriculture for additional income.

The small-scale and fragmented nature of farming remains a general characteristic in all of the countries; however considering controlled depopulation it can account for satisfactory productivity. The increase in agricultural production is mainly due to a rise in yields over the last decade. However, productivity is significantly lower than in the EU. Further development of the agricultural sector mainly depends on the emergence of more professionalized farmers with increased access to resources, investment capital and support for modernization. The population of the profiled countries tends to share traditionally deeper connection with rural environment and agricultural production. It is clear that the increasing availability of funds for agricultural investments will be followed by development and increase in output. The fragmentation of the primary production provides limited possibilities for investments, apart from investments on Government owned land or through joint ventures with local producers

The possibilities for modernization of the primary production will account for increased yields and will mitigate the negative trends (depopulation, rural aging, lack of value added etc.), while the reduction in the number of farmers will likely provide growth opportunities for farmers that further professionalize.

Compared to the EU, budget support for agriculture is still low, with the exception of Croatia, which provides subsidizing and budget support at the level close to the EU average. Border protection is applied, with limited effectiveness due to free trade agreements (Central European Free Trade Agreement (CEFTA), EU). Export subsidies are used in Serbia only. Croatia and Macedonia use direct payment schemes according to the EU rules. Rural Development support is mainly intended for restructuring and modernizing agriculture through investment support.

# MACEDONIA<sup>1</sup>

## Plant Production

151,528 ha (38%) of the total arable agricultural area are planted with **cereals**. Most common is wheat, with a share of 49% (95,406 ha in 2010), followed by barley and maize. The average yield of all cereals is generally low. Macedonia is a net importer of wheat.

Out of the total areas under industrial crops: 78% are planted with tobacco; sunflower is grown on approximately 19.5% of the areas, and poppy on 2.5%. The production of small-leaf oriental aromatic tobacco is one of the main agriculture subsectors. The raw manufactured tobacco is exported, at a value of about € 72 million (in 2010). Tobacco in 2010 was grown on some 18,846 ha by 42,620 households. The total production has an increasing trend (by 44% in 2009 and by 11% in 2010).

The production of feeding stuff and fodder crops on total areas of 28,534 ha (9% of the total agricultural arable area) meets only 30-35% of the domestic needs. The production volume of fodder crops in 2010 was approximately 213,700 tons. The insufficient fodder production is a limiting factor for the livestock sector.

**The production of vegetables**, especially early vegetables is one of the most significant characteristics of Macedonia's agricultural sector. Vegetable production is widespread throughout the country and includes open field and protected production on some 46,414 ha (2010), including 216 ha of glass greenhouses and about 3,832 ha of plastic tunnels.

The production is mainly concentrated in the southern eastern and north-eastern parts with Mediterranean and moderate continental climate.

The early vegetable production in 2010 shows significant increase in the volume, with 80% of the crops exported to the regional markets.

Melon and watermelon production are planted on an area of 5,732 ha with a total production of 134,885 tons in 2010.

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<sup>1</sup> All figures given for Macedonia are based on Data for 2010 by Ministry of Agriculture, Forestry and Water Economy, (Macedonia), otherwise the sources are indicated in the text

**Table 2: Production of horticultural field crops**

Crop	Area in ha			Production In tons			Yield ton/ha		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
Tomato	4.940	5.284	4.613	122.795	107,053	113,944	24.8	20.3	24.7
Paprika	6.914	6.567	5,980	108.922	99.934	114.040	15.8	15.2	19.0
Industrial Paprika	2.236	2.035	2.438	39.600	32.401	46.808	17.7	15.9	19.2
Melon	6.053	5.891	5.751	150.069	140,046	132.310	24.8	23.8	23.0
Potatoes	11.611	11.060	11.144	227.868	193,393	206.592	19.6	17.5	18.5
Bean	10.250	11,224	9,647	11,020	9.050	10,226	1.07	0.8	1.06

*Source: Ministry of Agriculture, Forestry and Water Economy, (Macedonia)*

The **fruit production** covers approximately 2.75% of the arable agricultural land or approximately 14,000 ha with approximately 9,000,000 stems. An average orchard farm size in the country is approximately 3 ha. Out of total orchards, 84% are in the private sector. The most represented fruit varieties are: apples with approximately 62%, plums 13%, sour cherries 7%, peaches 7%, table grapes 7% and other fruit varieties (pears, apricots, almonds, walnuts, etc.) with approximately 4%. Macedonia yearly produces approximately 155,000 tons of fruits. The most significant areas for apple production are the lake regions of Resen and Ohrid which generate 90% of the total volume of apple production in the country.

**Table 3: Production of fruits (tons)**

Year	2006	2007	2008	2009	2010
Apples	88	93	124	92	90
Pears	9	9	8	2	3
Plums	26	19	33	12	28
Sour cherry	7	10	9	12	11
Peaches	12	10	11	8	9,5

*Source: Ministry of Agriculture, Forestry and Water Economy, (Macedonia)*

The current structure of **livestock production** consists of a large number of individual farm producers mainly for their own consumption and smaller number of commercialized family farms and large enterprises.

**Cattle production** is a major part of the livestock sub-sector, concentrated mainly in hills and mountainous regions. The structure of animals involves mainly dairy breeds of cattle 41.8% Holstein-Frisian breed, Busha 12%, Simmental 5% etc.

Milk production in Macedonia meets the domestic needs. Dairy cattle accounts for approximately 35% of the cattle herd or 93,500 heads. A total of 136,472 tons of cow milk have been purchased by the processors in 2010. The production of 948 tons of beef definitely is not enough to meet the consumer demand. In 2010 approximately 10,144 tons of beef were imported.

High-mountain pastures occupy more than half of the total agricultural land and represent an excellent base for extensive **sheep production**. The number of sheep has increased to about 755,053 heads (2010), although this is still far from the 2,000,000 heads in the 90's. About 96% of milking sheep are bred on individual farm holdings with an average herd size of 20 to 300 sheep, whereas a smaller number of large companies have several thousand sheep. The breed structure of the sheep population consists mainly of the breed Pramenka, and number of half-breeds of Württemberg (for meat) and Awassi (for milk).

During 2010, a total of 2,920 tons of lamb and mutton have been exported, mainly to Italy and Greece in the periods around Christmas and Easter holidays, and smaller quantities to: Croatia, Serbia and Bosnia and Herzegovina.

Sheep milk is used for the production of traditional types of cheese. In 2010, 8,640 tons of sheep milk was produced. The purchase price of sheep milk is approximately twice the price of cow's milk. The average yield of 68 liters of milk per sheep is obtained.

Egg production is a primary activity in **Poultry**. About 37% of the total number of laying hens account to the larger farms, and 63% to the medium farms, with an average capacity of 2-5 thousand per farm. The total number of poultry in 2010 amounts to approximately 2 million; 75% are laying hens, which lay about 336 million eggs a year. The production of eggs meets the domestic demands, and eggs are also being exported to the regional markets.

The production of poultry meat is based on slaughter of laying hens and broilers, producing 1,094 tons of meat. Domestic production of chicken meat covers 20% of the domestic demand.

### **Our focus - Wine grapes and wine**

The local wine grapes production makes the basis for the Macedonian wine industry and even serves as a source for raw materials for the wine industries in the neighboring countries. Wine is one of Macedonia's largest exports both in terms of value and quantities which is exported both to the EU and the region.

This subsector is an income generator for a large number of population and is one of the priority fields for the Government support. The subsector has mainly served as a source for bulk produce; however efforts/investments in the last decade have resulted in added value, improved quality, increased production and export volume.

The wineries in Macedonia are supplied by raw materials produced by thousands of small farmers. Among the producers several large companies dominate (up to 1 000 ha), which might be of interest to investors. The support of the Government towards the subsector has influenced some growth of the planted area, ensuring sufficient supply for the processing industry. A significant part of the raw material consists of regionally indigenous varieties and provides a well-known and recognized authenticity of the produced wines.

Macedonian wines are well-known on the regional market, although a significant quantity is exported to Germany as bulk, for further blending. In recent years production of higher quality wines has been of interest to local investors and the Government. Support is channeled as market incentives, aimed at keeping value added in the country and at easing capital constraints. Lack of qualified enologist is viewed as a constraint for the industry, preventing penetration on the market at the higher end of the quality spectra. Investment opportunities are available as joint ventures, provided that investors with experience and knowledge of the market (preferences and outlets) are interested.

### **Our focus - Vegetables processing industry**

The vegetables processing is one more key source of income for a large population in Macedonia. The sub-sector is export oriented. During last years, investments in the processing facilities added significant value to the Macedonian vegetable production. Development of the processing industry has also triggered the growth of the primary production and makes one of the most positive moments of the Macedonian agriculture and food industry. In turn the ample supply of the raw materials has enabled rapid growth and diversification of the processing industry.

This sub sector has been in continuous growth since its inception, constantly increasing the diversification of products and production volume. The quality improvement is another very important result of investments. The industry utilizes a number of primary products, although pepper is the base of the industry. The producers are well experienced and have demonstrated numerous times that they can quickly and significantly increase the output. Growing exports have positively affected the growth of the processing industry, while the Government support for modernization and market incentives have kept the value adding in the country and have sparked the growth of the primary production. The earnings in the industry compared to the low level of investments needed can be attractive for investors.

Both sub-sectors profiled above share lack of turnover capital, mainly due to inappropriate financial management. The crediting of the end buyers (up to one year) by the processing industry is translated into long delays of payments to primary producers, further eroding the trust and vertical integration. Appropriate financial planning can significantly improve the output of both subsectors and reduce costs by reducing the dependence on credits.

## SERBIA<sup>2</sup>

### Plant Production

Most of the agricultural land is used for cereal **crop production**. This production takes up about 60% of the total seeded areas. Maize is predominantly present on more than 1.2 million ha. As for maize production, Serbia ranks fifth in Europe after France, Ukraine, Romania and Italy.

Field crops are mostly grown in Vojvodina, which is predominantly lowland, accounting for about 84% of cultivable land areas of Serbia. Soil fertility has been improved by building irrigation canals.

Serbia is among the leading countries in Europe in **oilseeds production**. The largest oilseed areas are in Vojvodina, where six out of seven processing plants are located. Out of the total number of oil producing plants, two are exclusively soybean processing plants.

Oilseeds production meets domestic needs and its most important export products are sunflower and soybean oil, ranking among the top ten products in 2010 by value.

Vojvodina has good soil and climate conditions for **sugar beet** growing, which attracted foreign companies to invest in advancement of this production and processing capacities. While areas under sugar beet differ annually, average sugar beet yields per hectare are on the rise. Sugar beet is processed by three companies in six processing plants in Vojvodina. Sugar is an important export commodity, and by the value of exports it ranks among the top ten products, mostly owing to the preferential regime for exports to the EU for annual quantities of 180,000 tons.

**Medicinal, aromatic and culinary herbs** in Serbia are part of tradition and culture. The total harvested quantities of uncultivated medicinal herbs in 2010 were 16,000 t. At the same time, areas under cultivated or plantation grown medicinal herbs were 1,419 ha yielding 4,500 tons.

**Vegetable production** is one of the most intensive branches of plant production with five to eight times higher value of production compared to field crops, or even 200-250 times higher value in protected vegetable growing. Vegetables are grown on about 281,000 ha, or 9% of the total cropped area. In 2010 vegetable production was 2.18 million tons.

Vegetable production structure is dominated by potatoes with about 41% share. Potato industry has a wide range of products: crisps or chips, mashed potatoes and frozen French fries, the exports of which have had a rising trend over the recent years. After potatoes, the most produced vegetables are cabbages (15%), followed by melons and water-

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<sup>2</sup> All figures given below for Serbia are based on "Serbia Agriculture Fact Sheet" – Ministry of Agriculture, Trade, Forestry and Water Management – 2012, otherwisethe sources are indicated in the text

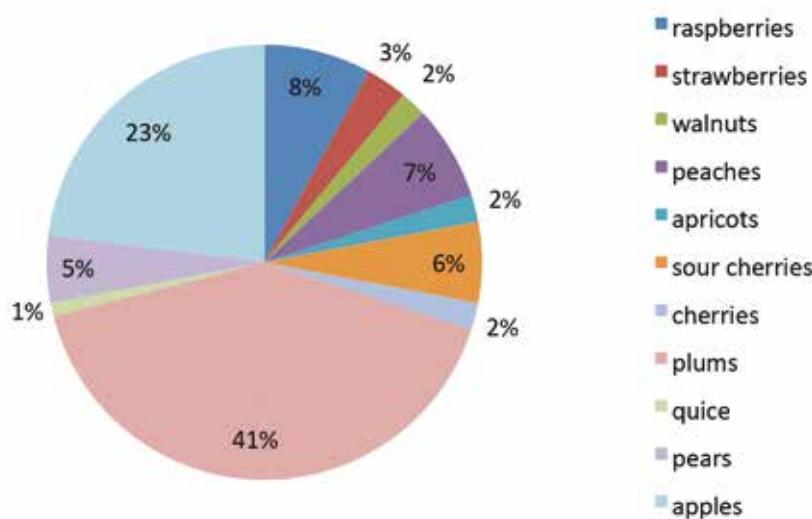
melons (9%), tomatoes (9%), peppers (7%) and onions (7%). Rising trends in production of most vegetables indicate rising profitability.

Serbia has a positive balance in foreign trade in vegetables. The share of vegetables exports in total agricultural exports is about 9%. The EU is the largest buyer of fresh, frozen and processed vegetables (42%). The neighboring countries consume 35% of the vegetable exports. Processed vegetable exports are dominated mostly by preserved vegetables. Dried peppers have the highest share in dried vegetables, and are exported mostly to Hungary, Austria and Germany.

Favorable climate and soil conditions result in successful and diverse **fruit production**. Areas under orchards in 2010 were 239,846 ha, which is 4.7% of the total agricultural areas, or 5.7% of cultivable land areas. Traditionally, plum orchards take up most part of the areas under fruit plantations 51%, followed by apple (20%) and sour cherry orchards (10%).

Total production of fruits in 2010 was 1,043,504 tons. The production structure is dominated by stone fruits with 56% share, followed by pomes (28%), berries (14%) and nuts (2%). Most widely grown are plums, with 51% of the total area under orchards. The share of fruit production in the total value of plant production is 12%.The largest fruit growing areas are in Central Serbia .

**Graph 1 Production by Fruit Species in Serbia**



Source: Statistical Office of Serbia

The share of exports of fruit and processed fruit products in the total value of exported agricultural and food products are significant, usually averaging 27%. In terms of value of exports, raspberries top the list. The share of raspberries in the total value of fruit exports in 2010 was 47%.

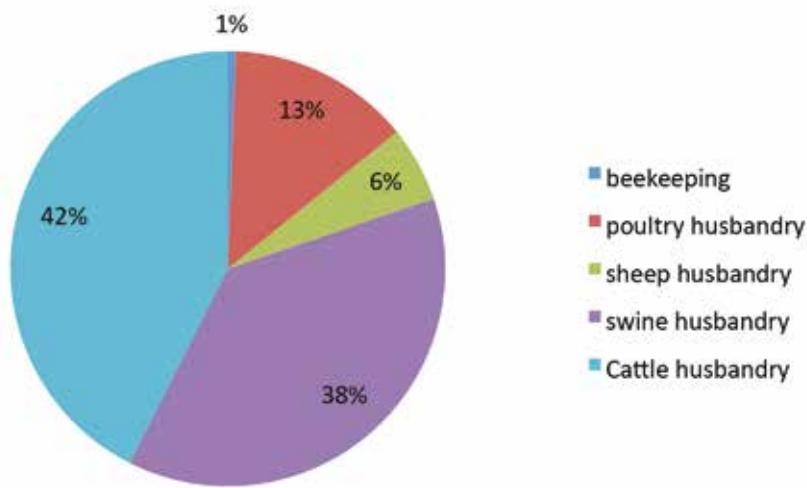
Fruit production in Serbia is moderately efficient, utilizing a broad network of small scale producers. The level of automation and technology is limited, resulting in lower yields compared to western standards.

### Livestock production

The share of livestock husbandry in the total value of agricultural production was 32% in 2010. Cattle are the most important production sector in the livestock production. Most important products of cattle rising are staple foods (meat and milk). The share of cow's milk in the total value of livestock rising is 25%, while beef production share was 17.6%. Cow's milk was the most important with a share between 98 and 99%.

Pork production is the most important sector in livestock husbandry when it comes to meat production, but it is considerable also in terms of overall livestock production. In 2010 pork production was 57% of the total production of meat. The growing trend in poultry meat production continues, and in 2010 it had a share of 18% in the total production of meat.

**Graph 2 Shares of sectors in total livestock production in Serbia**



Source: Statistical Office of Serbia

## **Our focus - Raspberry and Blackberry**

The berries subsector in Serbia (raspberry and blackberry) from the beginning of the transition process has provided rural population with significant portion of their income. The sub-sector is characterized with the labor intensity and limited possibilities for large scale agricultural activities. The berries subsector has been the base for development of a processing industry, which is currently in the process of consolidation and modernization.

Small size farms prevailing primary production are mostly operated on cash basis, with small delays between sales and payments. No shortages of capital are observed in the processing industry, pointing to the profitability and competition within. On the other hand it is difficult to keep the process of modernization on the high due to the small-size character of the sub-sector.

With the lack of competition in the region, the local processors compete to add more value and ensure better position in the market. The industry has been shifting towards more added value products and retail packs, thus keeping a significant value added in the country. Foreign and local investors have already invested in the subsector, while possibilities for investments still exist. The capacity of the processing industry has already significantly outweighed the primary production output, as markets are readily absorbing the available quantities.

## **Our focus - Plums and prunes**

The plum production in Serbia provides one of the largest source of raw materials for Europe. Decreasing demand at regional markets caused stagnation of the sub-sector and increase of plums volume used in home processing of alcoholic beverages. The processing industry for plums is dominated by drying facilities, which in general produce bulk packed prunes. In the last five years the plum and prune sector development was triggered supplying the renewed soaring demand in former (Russia) and new markets (Turkey).

The time needed for development of a competitive orchard production and processing industry will likely keep Serbia ahead of competitors for the foreseeable future. The increasing demand creates new possibilities for sub-sector development.

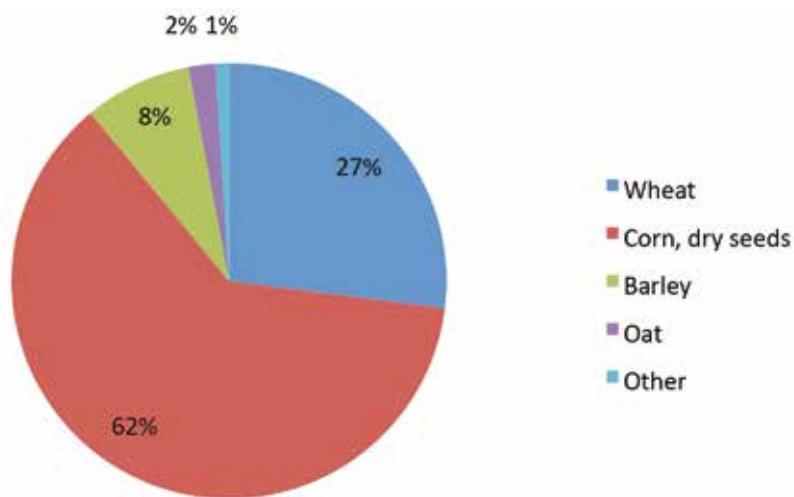
Both sub-sectors profiled above are characterized by massive supply base of raw materials that literally place Serbia on the global map. This is still true after years of neglecting these sub-sectors and sales of cheap raw materials for further value adding. The Government has recognized the significance of the selected sub-sectors, but the major problem is that Serbia being a large regional agricultural producer has tried to evenly cover too many sub-sectors with limited resources for support. More substantial support is provided for renewal and modernization of the orchards mitigating the subsector's decline.

# CROATIA<sup>3</sup>

## Plant Production

Cereals dominate crop production in Croatia, accounting for about 65% of total arable land. An average of 559,000 ha is planted with cereals and 3.1 million tons of grains are produced. Corn participates with 62% (2.2 million tons) and wheat with 27% (903,900 tons). For several years now Croatia has been an exporter of cereals.

**Graph 3 Cereals shares in Croatia**



**Source:** Ministry of Agriculture, Fisheries and Rural Development (Croatia)

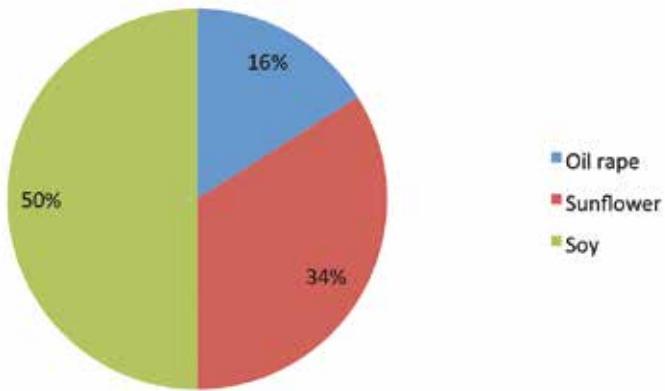
Some 250,000 tons of oil seeds (soy, sunflower, oil rape) are produced on 95,000 ha. Oil plants production covers less than 80% of domestic needs for raw vegetable oil and fats.

The production of sugar beet is undertaken on some 30,000 ha and sugar is produced in three factories, partly from imported raw material. Sugar is Croatia's most significant export product of the last decade. Almost the entire export of sugar is realized onto EU markets.

The progress realized in the last six to seven years account for more than 2.5 times increase of the yields per hectare and amounting to about 9.5 tons.

<sup>3</sup> All figures given below for Croatia are based on "CROATIAN AGRICULTURE" - Ministry of Agriculture, Fishery and Rural Development of the Republic of Croatia – 2009, otherwise the sources are indicated in the text.

**Graph 4 Industrial crop shares in Croatia**

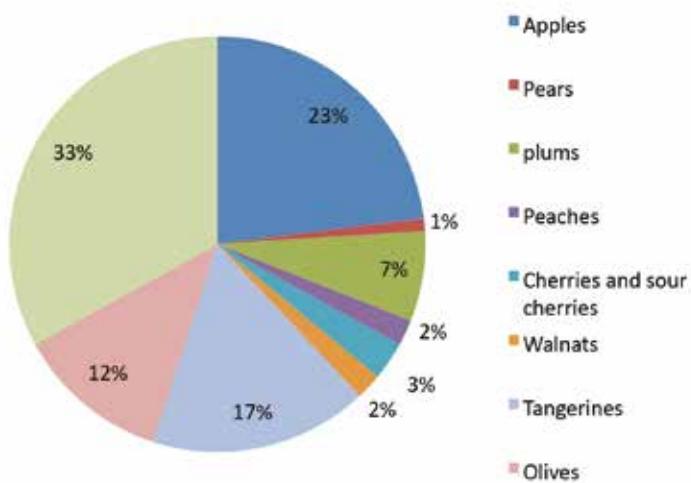


**Source:** Ministry of Agriculture, Fisheries and Rural Development (Croatia)

With the EU accession, like the rest of the European sugar industry, the Croatian sector of agriculture and food will be exposed to extremely strong world competition due to the full market liberalization.

**Fruits and vegetables** (including grapes) production is characterized by small scale farmers, producing mainly for self-consumption and direct marketing. Grapes (table and wine grapes) and potatoes are the most widespread cultures, followed by apples, plums and tomatoes.

**Graph 5 Fruit shares**



**Source:** Ministry of Agriculture, Fisheries and Rural Development (Croatia)

The fruits and vegetables production is extremely diverse and is on the rise; however it still covers less than 2/3 of the total consumption. Self-sufficiency in case of fruits production is significantly lower than with vegetables. Apples and mandarins are leading by quantities produced among fruit species, with an average aggregate production of 103,000 tons. Cabbage and paprika are dominant with an average aggregate production of 70,000 t in the segment of vegetable production.

Wine production in Croatia has a very long tradition. About 150,000 farmers are involved in vinery. The level of land fragmentation is very high. More than 95% of producers have been cultivating vineyards of up to 0.5 ha, showing that many growers are part-time farmers. The most frequent grape varieties cultivated are: Grasevina, Istrianmalvasia and Plavac. Their aggregate share accounts for 47% of the total production. The rest pertains to 28 sorts neither of which alone participates with more than 3%.

Regarding natural conditions for growing wine grapes, two regions can be distinguished: the continental and the costal with a total of 13 sub-regions. The wine production reaches some 1.28 million hectoliters. Nevertheless, the import of wine was several times higher than the export. Average export prices of Croatian wines are approximately three times as high as the prices of imported wines. Consumption of wines by tourists is an important segment of the total consumption.

### **Livestock production**

In the livestock sector, small producers predominate for cattle, pig, sheep, goat and horse keeping. The largest share of the production structure belongs to small family farms, whereas the importance of large production units (specialized farms) in the market has been rising fast in the last few years. During the war (1991-1995) the number of cows and production volume decreased significantly.

Milk production forms the basis of cattle farming. In the last few years, the subsector has been restructuring with a significant increase of supplied milk by the largest farms. At the same time, Croatia is a net milk importer. The production level of before the transition period still has not been achieved. This is one of the segments into which the greatest funds have been invested by the Government in the last years. The greatest shift is noticeable in the increase of quality of milk which is getting close to the EU standards.

The potential for the development of the pig farming production comes out of the strong domestic production and the tradition, while the main disadvantage is the extensive fragmentation of farms. Production is organized in large production units with the latest technologies and the use of high-quality genetic basis of current hybrid lines in the production.

Most of the sheep and goat production takes place in mountainous areas and on the islands, known as/ characterized as less favored areas. Regarding this matter it is possible to apply for specific funds. As much as 98% of the production is located on relatively small family farms of which almost 30,000 are in sheep production.

Poultry production on the other hand is characterized by large-scale production units (meat and eggs). In the meat consumption structure, following the production structure, the largest share pertains to pork than poultry meat followed by beef, while the consumption of lamb and goat meat is the lowest. For all the above meat categories, Croatia is a net importer but comes close to achieving self-sufficiency in poultry meat.

### **Our focus – mandarins**

Croatia is a net importer of the most agricultural products. Mandarin production is one of the few export oriented subsectors. The subsector has experienced steady increase in the last decade. Due to the location and climatic conditions the Croatian mandarins are exported earlier than those of most competitors, which is one of the important factors for competitiveness. The massive investments in the subsector both through incentives from the government and investments by the local population, account for annual leaps in export quantities. The product also provides ground for an increase of the regional cooperation as it provides employment opportunities for a large seasonal workforce.

More than 90% of the available quantities produced in Croatia are exported. Coupled with the acceptable varieties and the relatively low prices compared to the competitors, the demand is rising both on the regional and the EU markets. Recently mandarins found their way to the Russian market, fostering even higher interest for investments. The subsector is heavily regulated and subsidized both in terms of erection of new orchards and market incentives. This makes the sector very competitive in terms of investments and predictable in terms of costs and expected returns.

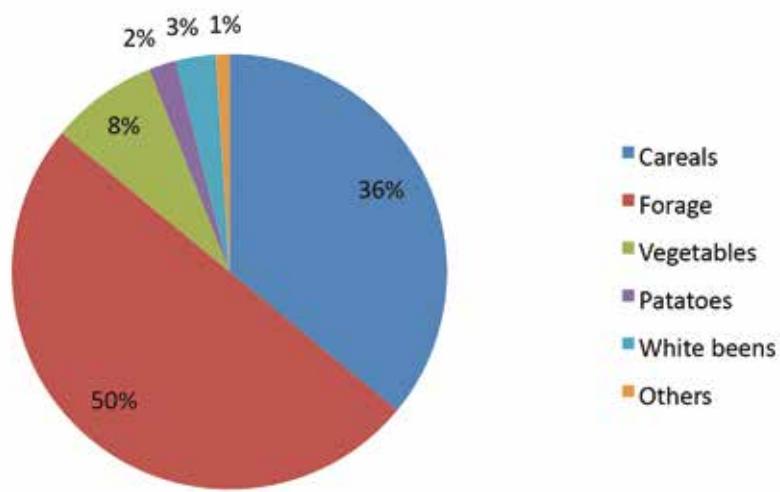
The mandarins are one of the few sectors which won't be influenced by quotas once Croatia joins the EU. In addition, the continuous support for orchard establishment in the last decade is yet to peak in terms of quantities of produce.

# ALBANIA<sup>4</sup>

## Plant Production

The total arable land in Albania makes about 584.000 ha. In 2010 33,2% out of the total arable lands were used for fodder production, 14,3% for wheat, and 8,4% for maize and other cereals showing also a big share of unutilized areas and fallow land. The agricultural production has increased significantly in recent years. Field crops occupy about 31% of the total agricultural production. Cereals, vegetables and potatoes continue to be dominant crops.

**Graph 6 Field crops structure**



**Source:** The Institute of Statistics, Albania

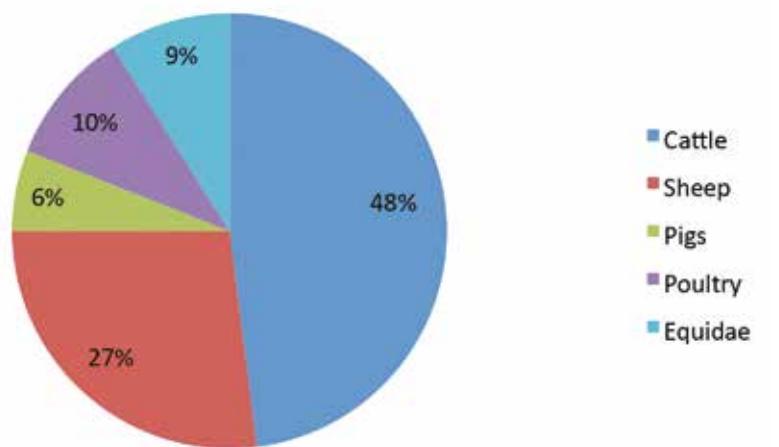
As a result of supporting schemes applied, orchard production has been continuously increasing in recent years. It occupies about 17% of the total agricultural production, with grape and fruit trees as dominant, and a continuous increase in olives production. The area under greenhouses has notably increased; the actual planted area with vegetables is 856 ha.

## Livestock production

Livestock is a strategic sector for Albania. It occupies about 52% of the agricultural output. The overall number of livestock has decreased in the last decade. The strongest decrease was observed in cattle. The number of small ruminants has slightly decreased during the same period, while the number of pigs has increased by more than 50%.

<sup>4</sup> All figure given below for Albania are based on "Agriculture in the Western Balkan Countries" – IAMO – 2010, otherwise the sources are indicated in the text

**Graph 7 Livestock structure**



**Source:** The Institute of Statistics, Albania

Albania is just starting to recognize and support the agricultural sector as one of its priorities. Due to the limited resources, subsidies are being provided to very few sectors at very modest amounts. Apart from very little exclusion with positive developments the agricultural sector does not meet local consumption and the country is a net importer of agricultural goods.

#### **Our focus - Medicinal and Aromatic Plants**

Medicinal and aromatic herbs are one of the largest Albanian agricultural export products. It is a traditional sector which has experienced steady development in the last decade. The subsector is very labor intensive and provides income base for a large number of rural population. Up to 10% of total laborforce are involved in this particular sub-sector. This figure is very impressive, especially considering an average percentage of agricultural labor force for EU members. Most of the exports of herbs are concentrated to Germany and the USA.

Large and medium size operators are getting involved with different levels of processing of the traditionally exported bulk raw materials and directly compete for international markets. As a result, stronger competition in the market for the raw materials is increasing investments for processing activities. Partial depopulation in some rural areas and concerns of overharvesting are further fueling investments into cultivation rather than harvesting. This case is good example how the market in junction with government support can react under noncompetitive circumstances, such as high level of unemployment in rural areas, lack of resources, etc.

## EU NEW MEMBER STATES – KEY CHANGES

The enlargements in 2004 and 2007, when twelve New Member States (NMS) joined the European Union, caused several significant changes in agriculture.

One of the best ways to characterize the role of agriculture in a national economy is by the share of agriculture in GDP, which is shrinking all over the world. This tendency continued after accession in the NMS as well. The highest role of agriculture in GDP can be observed in Bulgaria (14%), Romania (13%) and Lithuania (6%) in 2000, whereas other NMS countries had a share of 3-5%. After the EU accession, shares in all cases decreased, though largest falls can be seen in countries with originally high values. In 2010, the share of agriculture in GDP was below 7% in all countries analyzed (the majority was between 2-4%) but we should note that it is consistently higher in all countries if food industry is taken into account. Note, that shares of individual NMS were still higher than EU27 average. Two main accession impacts on agriculture are development of agricultural output and trade.

**Table 3 Share of agriculture in GDP in the NMS (%)**

	<b>2000</b>	<b>2003</b>	<b>2006</b>	<b>2010</b>
Bulgaria	13.56	11.2	7.17	5.36
Cyprus	3.6	3.41	2.4	2.08
Czech	3.89	3.13	2.6	2.4
Estonia	4.82	3.99	3.21	2.86
Hungary	5.4	4.3	4.01	3.53
Latvia	4.6	4.13	3.51	4.14
Lithuania	6.35	5	4.3	3.51
Malta	2.35	2.89	2.74	1.83
Poland	4.96	4.39	4.29	3.54
Romania	12.51	13.03	10.51	7.14
Slovakia	4.47	4.52	3.59	3.86
Slovenia	3.3	2.5	2.39	2.46
EU27	2.31	2.03	1.65	1.48

2010 - Cyprus and Estonia, 2008 data used. Malta, 2009 data used

Source: World Bank (2012)

There are significant differences regarding the index of agricultural output in the NMS. According to the World Bank data, the Baltic countries and Poland increased gross agricultural output significantly in real terms over the period from 2000 to 2011. The agricultural output in real terms decreased or remained stable in all other countries concerned. At the same time, agricultural output per hectare in the NMS increased significantly after the EU expansion. Hungary and Poland could reach the 1000 EUR/ha by 2011 but only Slovenia reached the EU15 average. Another measure closely linked to the agricultural production performance is productivity. In 2010, according to the UN Food and Agriculture Organization (FAO) the highest cereal yields was observed in Slovenia (5.97 tons/ha), while the lowest in Cyprus (1.60 tons/ha). After the EU accession, all NMS but Cyprus and Lithuania were able to increase their cereal yields. The Hungarian cereal yield growth

was the highest (almost 60 per cent). The NMS however, still lags behind the EU-15 land productivity. All NMS showed labor productivity increase after the accession, though a considerable 4-5 times lag still exists compared to the EU-15. In 2011, the highest agricultural output per annual work unit (AWU) in real terms was in the Czech Republic (34,000EUR/AWU), which is around EU-27 average, while the lowest was in Romania (6,000 EUR/AWU).

The EU expansion has also affected the NMS structure of agricultural production. It has moved after the accession towards a more extensive direction, namely towards crop production. In 2011, the share of crop output reached almost 75% of total agricultural output, while it was around 50-60% in the majority of the cases. Such a change was mainly due to the grain intervention system of the EU's Common Agricultural Policy (CAP) and increasing feed prices in the region.

The accession had a significant impact on the NMS **agri-food trade**. First of all, the value of agri-food trade has measurably increased in nominal terms after 2004 (table 4). The agri-food export of Hungary doubled from 2003 to 2011, while that of Latvia and Romania increased almost six times. At the same time, agri-food import tripled in the majority of the cases. The biggest increase was observed in Latvia for export and in Slovakia for import, while the smallest increase in agri-food trade was in Malta. Note that export growth was faster than import growth in most cases.

Agri-food trade growth in nominal terms however, has not resulted in an improvement of agri-food trade balance in most cases. Only Bulgaria, Hungary, Lithuania and Poland showed a positive agri-food trade balance in the period analyzed. The Polish balance exceeded 2.5 billion EUR and the Hungarian almost reached 2 billion EUR in 2011. The accession has further deteriorated agri-food trade balance in the majority of the NMS. The biggest deficit was observed in the Czech Republic and Romania (around 1.5 billion EUR in 2011).

**Table 4 Changes in the NMS agri-food trade in nominal terms (2003=100)**

Country	Export			Import		
	2006	2009	2011	2006	2009	2011
Bulgaria	158	281	465	172	322	429
Cyprus	127	124	164	159	201	220
Czech	189	245	310	173	224	278
Estonia	179	214	336	152	182	239
Hungary	128	164	225	205	244	310
Latvia	275	414	650	178	229	304
Lithuania	233	359	514	207	284	411
Malta	157	87	158	123	142	152
Poland	212	268	351	188	271	362
Romania	172	341	618	159	250	290
Slovakia	258	329	477	224	338	433
Slovenia	147	194	279	168	230	290

Source: Eurostat (2012)

# AGRICULTURE SUB-SECTOR SUPPORT MEASURES IN CEEC

Governments in the Central and Eastern European Countries (CEEC) have been addressing the problems in the agriculture and food sector since the beginning of transition. The first phase of interventions responded to the immediate political and economic crises by providing emergency relief and key production resources to farmers. The second phase addressed key constraints for commercialization. Now they are looking toward the EU to transform the agriculture and food sector.

The EU supports agricultural and rural development under the CAP by using two "Pillars." Pillar 1 provides agricultural market and income support using decoupled direct area payments as the primary mechanism for support. Pillar 2 seeks to raise competitiveness of the agriculture sector and provide opportunities to the wider rural population through rural development programs, which should be the key to economic transformation of Georgia.

CEE countries have been funding heavily their agriculture and food sectors through national budgets and EU pre-accession support. Results have been mixed across countries. Some countries were more successful in transformation, while others to less extent. CEE countries mainly used Pillar 1 measures that seldom are found to increase competitiveness and develop rural areas, while Pillar 2 measures on the other hand are found to promote sustainable and competitive agriculture. These are not visible as direct farm payments, but they build a foundation for long-term competitiveness and their benefits trickle down to a wider set of beneficiaries over a longer horizon.

Countries which have utilized Pillar 1 measures to improve the uptake of Pillar 2 measures were more successful in transformation than those heavily using Pillar 1 measures. Further, relatively successful countries have focused support policies on competitiveness enhancement and paid particular attention to addressing the challenge of the presence of small fragmented farm holdings, establishing mechanisms for the increase in their commercialization. Budget of some countries was so stretched with market and income support measures, that they often found it difficult to allocate appropriately funding for development of essential services such as extension, irrigation infrastructure, etc. affecting long-term sustainability and competitiveness. Positive development in those countries which have been using extensively Pillar 1 support measures was that these countries have started decoupling of support measures and switched to per hectare and per head payments and have tied these measures to issues like food safety, genetic improvement, and quality, etc. allowing to link subsidies with better management of consumer protection and competitiveness.

Investment in rural development is critical for balanced growth in rural areas. Support to rural development in CEEC has been increasing driven primarily by European integration and preparation of the institutional and legal framework to access EU pre-accession support, but existing rural development measures are often heavily restricted in access and scope for small scale growers especially, often include different product subsidy elements and lack transparency in management.

## SUPPORT MEASURES - WINE AND WINE GRAPE

In *FYR Macedonia* different support measures are available to grape growers and wineries. Income support to grape growers is on a per hectare basis, and is decoupled from the output level. To qualify for the support, holding should be registered and its area should be above a specified minimum size.

Wine grape grower customers are wineries and exporters of fresh products. To improve vertical linkages and to facilitate to the value addition, the Government supports grape growers through a payment for every kilogram of grapes supplied to wineries; the payment also might be in the form of a per liter basis given the widely practiced sales of wine in bulk. The Government does not encourage export sales of fresh grapes. As a result of this measure export supplies have declined since growers find more attractive to sell their harvest to wineries rather than to export, although collection of total receipt by growers is delayed, while in case of exports, they are collected immediately upon product delivery. In general, growers collect subsidy portion of a total receipt upon supply of grapes to wineries, and the remaining is collected after wineries collect receivables from end-buyers.

Another support measure available to a grape grower is an incentive to establish a new vineyard, the payment is on a per hectare basis. Two main requirements for applicants to qualify for the support are holding registration and the area of a holding to be above a specified minimum size. This measure has led to an annual increase in the area of land under vineyards by about 1,000-2,000 hectares, and annual grape production level increase by around 7-11 %.

*FYR Macedonia* is an importer of virus-free certified rootstocks. On annual, basis the country has been importing about 1,000,000 pieces of virus-free rootstocks. In order to stimulate local production of virus-free certified rootstock, the Government introduced relevant support measure; rootstock producers receive subsidy per piece of produced rootstock, given that their holding is registered and its area is above a specified minimum size. This measure has resulted in a gradual decline in import of certified rootstocks and a foreign exchange outflow.

Grape growers can apply for the EU pre-accession support for rural development. Applicant's holding should be registered or she/he should be a member of a cooperative in order to qualify for support. Support measures available under this instrument are as follows: (i) access to mechanization and equipment, (ii) renewal of existing vineyards (about 60% of the vineyards are more than 15 years old), substitution of traditional varieties through supply of quality and virus-free rootstock; and (iii) installation of different infrastructure and drip irrigation.

During the last decade wine exports have been growing, and the quality of wine also has been improving. There has been a shift from export of bulk wine to bottled wine supplies; supplies of later have increased considerably during the last years, while that of a former has been trending downward. Wineries benefit through export facilitation support measures that considers subsidization of the certain portion of packing costs; a winery needs to

have experience in exporting to qualify for this measure. Other support measures to wineries include assistance to micro enterprises involved in wine production, and provision of land property for establishment of new wineries at competitive prices either for sale or long-term lease. Wineries also benefit through support measures addressing wine quality improvement issues such as monitoring of quality, and packing and labeling.

Comparing vineyard support measures in targeted countries versus Georgia it's obvious that targeted countries have implemented much more complex, fundamental measures to ensure growth in quality and quantity, alignment to international market needs. At the same time, Georgia has been focused only on subsidizing of grape harvests, providing financial assistance to wine factories and promoting Georgian wine in the international market by active advertising.

## SUPPORT MEASURES - FRESH VEGETABLES & VEGETABLE PROCESSING

In *FYR Macedonia* total vegetable production area has been increasing during the last ten years. The Government provides direct support to greenhouse operators and open-field vegetable producers. Disbursed support is product specific; in case of open field production, this measure covers almost all types of vegetables, while in case of greenhouse production, only certain types of vegetable crops are supported. The support is provided on a per hectare basis, and is not linked to output level. Also, to improve linkages between growers and processors, the Government has been disbursing procurement support payments per kilogram of vegetables supplied to processing enterprises; farmers selling fresh produce to export markets are not eligible and cannot qualify for this support measure. This has led to more value addition and decline in fresh export sales, since growers find more attractive to supply to processors rather than to export. To qualify for the support farm holding should be registered and the area of land under one crop should be at least the minimum specified size. Minimum area requirement is larger in case of open-field production as compared with greenhouse production.

On top of direct subsidies, the Government disburses premiums for implementation of quality assurance schemes and for organic production. The Government also participates with recovery of certain portion of the costs for implementation and certification of organic production.

Assistance available to greenhouse operators includes modernization of existing plastic houses and glasshouses, replacement of plastic tunnels with plastic houses, and provision and improvement of different infrastructure including installation of drip irrigation and mechanization. Moreover, assistance is available for investment in post-harvest facilities. Other support measure available for growers is support in establishment and modernization of on-farm processing facilities.

There are about 58 companies operating in vegetable processing sector. It is export oriented and about 70% of total output is supplied to export markets. The Government supports processors to implement different quality assurance standards such as ISO, BRC, IFC, etc. Through the recovery of certain portion of the costs for implementation and certification of quality assurance standards.

Annually, processing sector procurement of raw materials has been increasing by about 15-30% and that of its output by around 20%. There is a steady growth in demand for processed products both in international and local markets.

*In Albania*, among the field crops vegetable production has shown the highest increase, driven mainly by greenhouse output. The main factors that have stimulated the increase in greenhouse area are market demand and the high potential incomes per area unit. Support measures to greenhouse production have been in the form of support to the replacement of oil heating system with solar, and installation of new plastic sheeting given that applicant's greenhouse area is at least a minimum of specified size. Unlike the targeted countries, specific support policy for Fresh Vegetables & Vegetable Processing was not implemented in Georgia during last 10-15 years. At the same time this particular sub-sector in our opinion is among those few sub-sectors with comparative advantage. Considering similarity with targeted countries concerning Sub-sector structure, primary production fragmentation, we suggest targeted measures undertaken in Macedonia and Albania to be applicable for Georgia. These measures include supporting greenhouse operators in terms of modernization and compliance with international quality assurance standards.

## SUPPORT MEASURES - FRUITS, BERRIES & CITRUS

*In Albania*, fruit trees are cultivated by almost 80% of farmers. This subsector has witnessed the most rapid development in terms of cultivated area and total output. Available support measures consider recovery part of total investment up to specified upper payment limit (i) planting of fruit trees (apple, pear, plum, cherry, peach, hazelnut, and citrus), (ii) installation of a drip irrigation system, (iii) bio product certification, and (iv) establishment of irrigation wells.

*In Croatia* the number of newly planted mandarin trees is substantial and they have been steadily giving yield – production has been increasing on annual basis. Mandarin growers are paid direct support on per hectare basis. Growers also benefit from sales price subsidy. Other support measures available to mandarin growers have been as follows: (i) fuel at reduced price, (ii) operational programmes based on credits at interest rate of 2-4% annually up to 12 years, and reduced rates for disadvantaged areas; plus, credit guarantee to meet collateral requirements: (iii) low interest rate credits to establish orchards including support to the development of post-harvest operations – cold storage and ULO storages, (iv) support in capital investments for registered and VAT payer operators through cost sharing to invest in equipment, machineries, facilities, establishment of orchards (irrigation, saplings, labor, etc.)

and farming on the area of land above specified minimum size, (v) investments in agricultural holdings to restructure and to upgrade to Community standards – equipment for primary production, (vi) investments in production and irrigation including mechanization, drip systems and anti-hail netting, (vii) investments in the processing and marketing of agriculture and fishery products to restructure those activities and to upgrade them to Community standards, (viii) improvement and development of rural infrastructure, and (ix) diversification and development of rural economic activities.

In Serbia berry production has been the source of steady income for growers and for the processing industry, and a driving force in agricultural economic growth for decades. Value chain is represented by more than 80,000 farms, 250 cold stores, and 100 processing factories. Available support measures mainly consider recovery of certain portion of total made investments up to specified upper payment level and they consist of: (i) diesel fuel cost subsidy, (ii) support in implementation of international standards and certification of Global GAP, ISO 22000, ISO 14001, Organic, BRC, HACCP, etc., (iii) incentive to establish new orchards – reimbursement of the cost of saplings given orchard area is within a specified range, and certain proportion of saplings are certified, (iv) incentive for purchase of new equipment and machinery, (v) incentive to establish berry orchards differentiated whether it is established using one variety or different varieties and planting rates, (vi) incentives for investments in mechanization used in production/processing of berries – machinery for planting and the removal of pruning waste, for the protection from diseases, pests, weeds, cold, for irrigation, harvesting, greenhouses, washing, calibration, grading, storing, packing, sorting, drying, packing, box pallets and pallet frames for storage, refrigeration equipment and equipment for cold storages, and (vii) a subsidy of the cost of storage of frozen raspberries in public warehouses for a grower farming on an area of land up to a specified level.

Considering fruit production in Georgia, situation is much like to the issue with vegetables production. Only citrus, mainly mandarins were among the priorities of government policy. The Croatian experience is extremely valuable in case of mandarin's production. Mandarins sub-sector in Georgia is characterized by significant gap concerning quality standards acceptable for international markets. Subsidizing and/or other financial support measures cannot guarantee positive effect without significant improvement in the quality of yields. Hence, for further development some specific measures are crucial to implement, such as provision of extension services, promotion for co-operation, improvement of technological and infrastructural base.

## SUPPORT MEASURES - LIVESTOCK DAIRY/ BEEF

In Serbia premium to producers is paid through the dairies. Premium is based on the quantity of milk delivered, and depends on the region where the milk is produced – higher premiums for producers from highlands, and lower premiums to producers from low lands. Support measures that provides incentive to farmers to improve genetics are as follows: (i) payment on hedge basis, certain amount of subsidy per registered cow; attached conditionality – applicant's herd size should be in the specified range, and (ii) a subsidy for fattening of young bulls – certain

amount of payment per registered bullock. Attached conditionality to qualify for support is as follows: animal to be produced from applicant's stock or to be brought and kept in the farm for 180 days and to be intended for meat production.

In *Albania*, although, the number of livestock has decreased, total milk output has increased as a result of improved production techniques, improved breeding, feeding and overall animal health care. Fodder crop production has also increased reflecting the growing relative importance of the livestock sector. Available support measure is as follows: payment per head of milking cow/ sheep representing herds with size falling in a specified range; other conditionality is that animal should be ear-tagged and registered, and owners should be using invoices when marketing milk

Georgia is a net importer of the milk and meat. Only poultry and eggs partially meet domestic needs. Some basics such as livestock registry and veterinary service development should be done to provoke the sub-sector development. Serbia and Albania may be good examples for Georgia in this case. After the war in the 90s causing significant decrease in livestock Serbia had to restart from the basics and was focused on genetics improvement.

# CONCLUSIONS AND LESSONS FOR GEORGIA

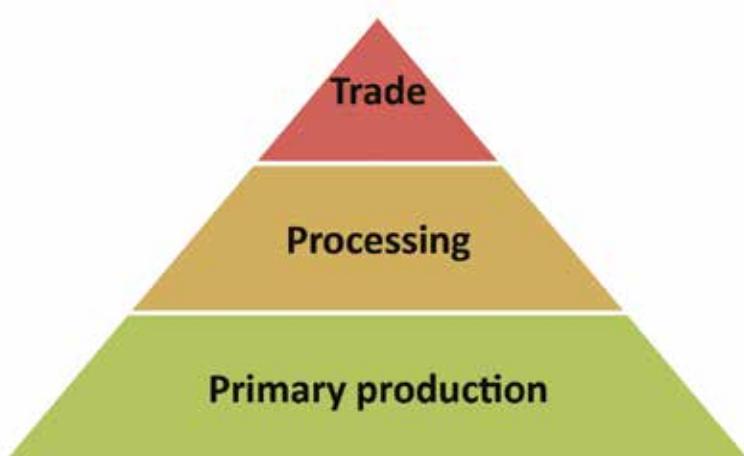
The agricultural strategy should be elaborated on a multilevel base. Based on international experience, analyzing successful and failed cases we recommend implementing strategy on 3 interlinked levels as follows:

- 1.
1. **Base level** - Identification of the mission and vision. Long-term goals in junction with rural development policy.
2. **Sectorial level** - Including primary production, processing (primary and secondary), value chain development, improvement of resource base (including financial) and informational provision for market stakeholders, establishing farm registry and formalized land market, development of commodity markets, integration and positioning at the international markets, development of infrastructural and technological base.
3. **Sub-sectorial level** - Competitive analysis, SWOT analysis by sub-sectors, proper selection of priorities, creation of functional strategies, detailed action plans for each sub-sector, subsidizing should be avoided when possible.

## GENERAL RECOMMENDATIONS

Strategy development should be based on following 3 high-level goals: development of primary production, efficient processing and trade infrastructure

**Diagram #1 agriculture –base elements**



Any segment of the pyramid can be a driver for the development of others. Thus, it is very important to be focused on all 3 segments. Considering CEEC achievements and shortfalls, it is proposed for Georgia to adopt a holistic approach and design support measures providing balanced focus of support on small scale farmer commercialization, production, processing and service infrastructure upgrade and development, enhancement of public services, and facilitation to the development of non-farm income generating activities in rural areas.

Resource base of agriculture in Georgia is close to those in targeted countries. At the same time, some focus on noncompetitive sub-sectors can be observed in Georgia. This is true for all stakeholders including government and farmers. Generally, the main challenge for primary production in Georgia is how to increase agricultural output per hectare. The answers for this challenge are following:

- Development of infrastructure
- Development of technological base
- Provision of extension services for farmers

Another factor with negative effect on efficiency in primary production is land fragmentation. The same problem was observed in all targeted countries (though, fragmentation level is much higher in Georgia). It is crucial to establish farm registry and formalized land market. Government should support the development of farmer cooperatives or other forms of cooperation

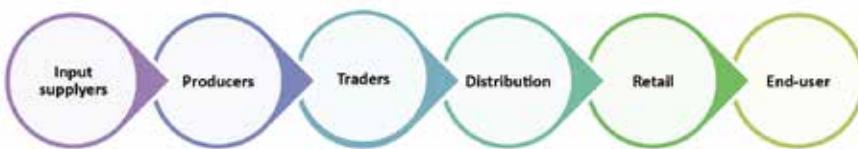
Commercialization of the sector is one of the key factors for development. Analyzing the value chain, we can see that simple structure is prevailing, especially in fruit and vegetable production.

#### **Diagram #2 simple chain**



Establishing complex, sophisticated value chain structure can be a driver for very fast growth in some sub-sectors

#### **Diagram #3 complex chain**

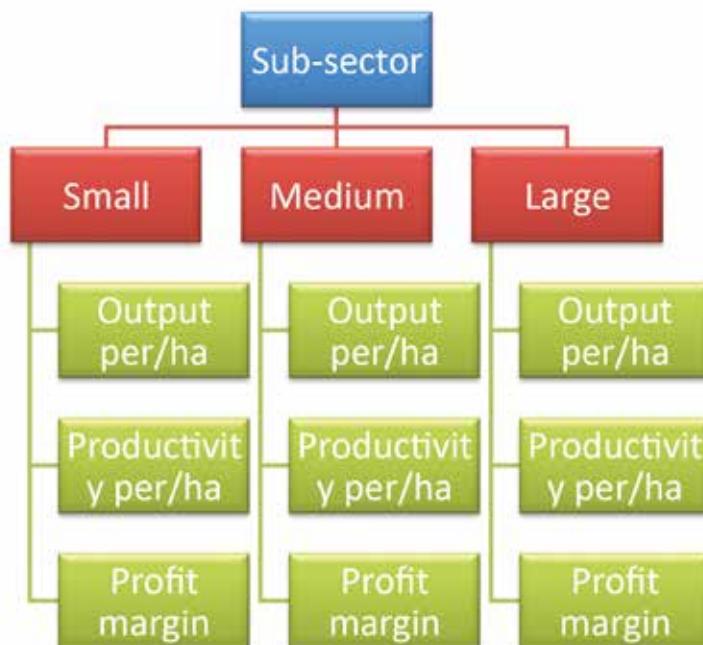


The main disadvantage of such structure may be increased prices for end-users in short-term period, but almost in all cases the effect of economies of scale is preventing such scenario. At the same time, the complex value chain creates huge possibilities for development, such as:

- Better use of financial instruments. It is much easier for specialized business units to attract financial resources. In most cases small farmers cannot attract resources directly from the banks, but they can do so indirectly from traders and distributors.
- Possibilities for establishing commodity markets. Hedging activities. The hedging may give a strong impulse to farmers for development and may be a good alternative for subsidizing.
- International trade. The traders are not limited by goods supplied by local producers. They can operate internationally, import, re-export and export goods.

## COMMON STANDARDS AND CLASSIFICATION

Based on international experience, classification of sub-sectors by size, productivity, financial results may provide extremely valuable information for potential investors. In the following diagram sample hierarchy of such classification is shown



The classification will provide potential investors with local market benchmarks comparable with similar international data. Simplification of decision-making is a main outcome of the classification and standardization. The farmers will be able to control and monitor their efficiency more accurately and policy makers will receive additional information to identify specific trends, gaps and etc. The classification model can be enhanced by additional financial data or other criteria. The basic information should be available for all stakeholders.

## SUB-SECTOR LEVEL

All elements of common strategy should be imposed to the sub-sectors. Based on best practice in targeted countries, several EU NMS and general recommendations above, the list of the support measures is provided for Wine and Wine Grape, Fresh Vegetables & Vegetable Processing, Fruits, Berries & Citrus and Livestock Dairy/ Beef. These measures mainly are common for all mentioned sub-sectors, but should be aligned to the specific needs:

- Support small scale growers to form cooperatives or other forms of cooperative organizations in order for small growers to gain economies of scale and better integrate into the markets:
  - Provide technical assistance to develop sustainable organization structures and processes;
  - Facilitate to sustainable linkages between established farmer groups and advisory services/ extension, including access to continued education and training, to improve production, harvest, and post-harvest handling practices;
  - Provide investment support to grower groups to catalyze their commercial activities by upgrading their production infrastructure (drip systems, sprayers, small scale machinery, etc.) including support for establishment of processing;
  - Assist growers to elaborate and adopt quality assurance schemes, and adopt the code of best practice in processing, packaging and labeling;
- In cooperation with grape grower groups and wineries, fruit/vegetable grower groups and processors input suppliers, livestock farmer groups and processors, buyers, and financial institutions design and implement financial instruments to allow improved availability of finances for working capital, investments, input procurement, and export financing;
- Design and implement decoupled direct support measures tied to better management and enhancement of competitiveness, consumer protection and market linkages;

- In cooperation with processors and grower groups elaborate and adopt product quality standards and implement price quality schemes and design relevant support measure to provide an incentive to growers;
- In viney - design and implement support programmes for nurseries to produce certified virus-free rootstocks and adopt relevant legislation;
- Through Public Private Partnerships facilitate the restart of local wine bottle manufacturing, facilitate to the start of quality jar and packaging manufacturing for fruits and vegetables;
- Through advisory services/ extension improve sub-sectors stakeholders' top and middle management skills and capacity in processing, procurement, financial management, and marketing;
- Enhance public service provision in veterinary through tailored interventions;
- Enhance public service provision in plant protection and irrigation through tailored interventions;
- Develop export marketing programme and assist wine-makers in the areas as follows: participation in international fairs and contest, creation of brand image, study tours to wine institutes, wineries, support in development of promotion materials and useful information for customers, matchmaking with reputable distributors and buyers, promotion of local grape varieties, and assistance in trial shipments and follow ups
- Facilitate to the creation of non-farm income generating activities linked to grape production and wine making through increased exposure to other countries' experiences (study tours, exchanges, etc.), advisory/ extension and investment support in infrastructure;

Under restricted resources, the key factor of success is the proper selection of priorities, which should be made based on sub-sectorial competitive analysis in the context of international trade. The sub-sectors with high potential of growth and maximum effect on sector development should be supported first and this support should be focused on the winners – successful stakeholders within a particular sub-sector.

The recommendations and support measures provided in this report cover all strategy levels, although the list is not full and should be enhanced based on additional surveys. Ongoing or planed agricultural programs in Georgia should be aligned to the common strategy to ensure the best possible effect on socio-economic development.





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