SWOT ANALYSIS AND IDENTIFICATION OF THE NEEDS, POTENTIAL AND DEVELOPMENT STRATEGIES OF THE FRUIT AND VEGETABLE SECTOR IN MONTENEGRO

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Abstract: Fruit and vegetable production in Montenegro benefits from naturally favourable conditions in terms of climate, soil and water resources. Such conditions enable high quality fruit, vegetables and vines to be grown, and fruit and vegetable production and viticulture have a long tradition as well as the cultivation of a wide assortment of produce. A significant number of Montenegrin households therefore deal with horticultural and wine production, although on a small-scale.

Along with the global market trends, the level of domestic consumption, the expected evolution of the distribution system in Montenegro and the planned dynamic developments in the tourist sector, these natural conditions contribute to creating basic conditions for the development of the considered sector. Market opportunities are favourable and represent an additional contributing factor towards its development.

In spite of the favourable climate for production in this sector and the supportive market opportunities, the real value of Montenegrin products at sector level is quite low. We conduct a SWOT analysis of the sector aimed to find out its potential as well as the needs of the sector. Our starting hypothesis is that the potential of this sector in Montenegro is greater than current activity/production, and that suitable strategies can provide higher results in this sector. The main outcome of this paper will be our suggestions for improvement within the sector.

The SWOT analysis will be completed according to the PESTEL categorisation, after which Opportunities and Threats will be grouped into three major strategic categories: "New market trends", "Sector financing" and "Structure and functioning of the value chain". The SWOT analysis outcomes, when regarded alongside a review of global market trends and domestic production potential, lead to strategies for the improvement of the sector.

Key words: SWOT analysis, fruit and vegetable sector, market trends, improvement, strategies

1. Introduction

The global fruit and vegetable sector is constantly and rapidly changing. New competitors are entering the market, including countries which are new entrants into the global horticultural sector but also countries such as Egypt, Turkey, Kenya, some Latin American countries, etc. and other countries and regions across the globe that benefit from "Mediterranean" climate conditions and can thus produce quality wines (Australia, New Zealand, South Africa, Chile, California). Supermarkets are progressively increasing their market share and ruling the market through higher concentration of demand, stricter quality standards, and wider private labels. The suppliers are reducing in number and increasing their average size. Innovation shall be a key for producers to compete with private labels. In fact, although value still remains important, innovation in terms of new flavours, packaging and marketing campaigns could differentiate brand-products from store brands (Nielsen and Foodnavigator.com, 2009).

The observed trends are rapidly expanding from developed countries to those that recently joined the EU and eventually to those that are in the process of accession (Croatia and Serbia first, then Montenegro, Macedonia and Bosnia-Herzegovina) or still in transition (Albania). Owing to the globalisation of the economy, the positive effect of the previous experiences and the "emulation" principle, the speed of changes in the latter countries is always faster than in the former ...

The Montenegrin fruit and vegetable sector needs a careful, state of the art analysis, in order to obtain a clear view on its prospects. Competition is severe, but opportunities are also present. Opportunities for exporters to the EU market may include:

- the EU is not self-sufficient for fresh fruit, but has a 13% trade deficit,
- increasing income, changing consumption habits and growing consumption in the new Member States,
- cost-effective production, especially off-season,
- increasing the scale of production,
- increasing the supply by joining forces, forming producer groups or producer organisations,

- niche markets,
- exotic fruit, including "super fruit" (fruit with a high degree of beneficial nutrients like antioxidants – pomegranates, blackcurrants, blueberries, blackberries etc.; most of these are consumed after processing e.g. as fruit juices),
- organic produce,
- fair trade produce,
- added value produce e.g. fresh-cut fruit and vegetables,
- healthy snacks,
- convenience, ready-to-eat produce, etc.

The authors of this paper focus on an analysis of the competitiveness of the Montenegrin sector, and conducted a SWOT analysis with the aim of contributing to defining a clear view on the prospects of the sector, especially on trade on the EU market.

2. Competitiveness of the Montenegrin sector

Montenegro has a significant and increasing trade deficit in agricultural products with the EU (source of data: Euro stat):

- EU imports from Montenegro (average 2008/2011): fruit € 1,1 millions (million), vegetables € 2,1 million, wines € 0.5 million.
- EU exports to Montenegro (average 2008/2011): fruit € 0,3 million, vegetables € 38,8 million, wines € 3,8 million.

In terms of domestic production, grapes have just a 14% share of land, but contribute to 28% of total agricultural value. Other fresh vegetables (peppers, tomatoes, watermelon) also contribute significantly to agricultural value. Contrarily, fruit cultivation takes up 37% of the total hectares but contributes to less than 14% of agricultural value. Thus, comparing the share of production of value with respect to area, which represents an index of value-added, grape ranks first (Δ +13,5%), followed by peppers (Δ +7,4%), tomatoes (Δ +5,8%) and watermelons (Δ +2,4%). At the other end, potatoes show a negative contribution to value-added (Δ –5,9%), as does fruit (Δ –23,8%). This exercise leads to drawing a specific matrix of Value-added (Chart 1), where the single products are placed according to their contribution to added value, considering competitiveness as the ability to generate valued-added at farm level independently from the market share. Grapes are placed in the positive side of the matrix, fruit and potatoes in the negative side, and other horticultural produce in intermediate positions.

The real value of Montenegrin products at sector level is quite low, due not only to the efficiency of production but also to constraints and inefficiencies in the supply chain: the cool chain and facilities of storage, loss of product, high rate of self-consumption, etc. However, official figures show that ostensibly, Montenegro presents a competitive advantage in terms of the value of products with respect to EU27 and CEFTA countries. Many agricultural products (grapes, fruit and vegetables) present an average value that is more than 50% lower than the EU or CEFTA average: the value of the grape is 55% lower than the EU average and 75% lower than CEFTA. Comprehensively, vegetables show –52% and fruit –61% on CEFTA average (I don't understand this sentence... please make it clearer). However, this is also because of the methodology adopted due to the structure of the comparable available data (FAOSTAT), providing prices which are not for the market but only for data, both in terms of value of production and volumes of production, which enable us to calculate a kind of Unit Value "index": (value of production / total quantity of production). This has a different meaning than price, which is the result of demand and supply. The unit value is the value of production related to total production (tons), that is including production sold + waste + production sold at low quality + self-consumption, all issues these latter that strongly influence the Montenegrin sector, thus reducing the apparent level of competitiveness. Nevertheless, it is necessary to stress that the efficiency of production is high only for certain products (tomatoes, watermelons, figs, apples, plums, oranges) if benchmarked with CEFTA, while with respect to the EU average, only figs are competitive.

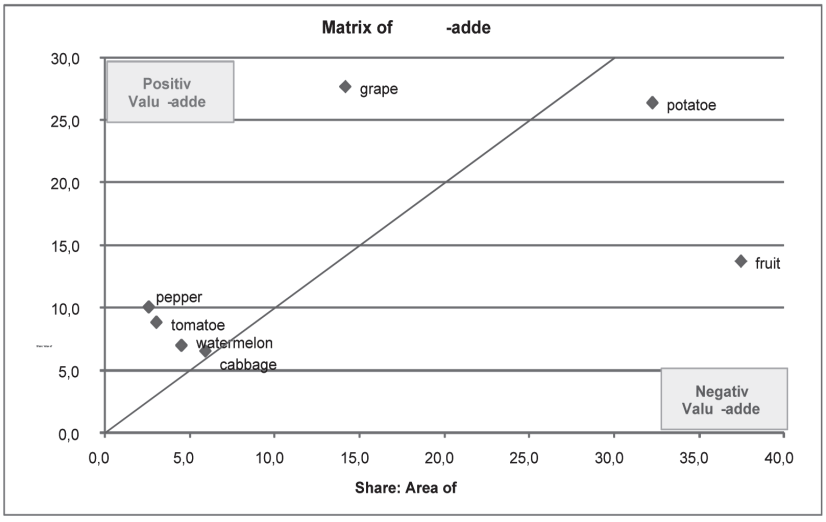

Chart 1. Matrix of Value-added for Monten

Source: Authors calculations over data from Statistical Year Book of Montenegro, 2009, 2010 and FAOSTAT

In other words, the positioning of value may provide good competitiveness, as commodity, in the short term, but it is often also an index of quality performance, as a low price is often the reward for low quality. Thus, price positioning should be combined with strategies for mark-up, quality and efficiency in order to create added-value and sustainable positions in the long term. With a similar methodology, an "Index" of yield has been calculated from FAOSTAT data on production and area: index: total quantity of production / total area.

Price competition is very important in the short term view but, in order to draw long term strategies, a map of competitiveness has

been outlined. For that purpose, two indexes have been calculated using the data of unit value and yield in benchmarking with EU and CEFTA countries:

- Cost-Quality competition: estimated from difference (Δ) of unit value of specific products of Montenegro with respect to the EU or CEFTA average;
- Efficiency competition: estimated from difference (Δ) of yield of specific products of Montenegro with respect to the EU or CEFTA average.

Then, the two indexes have been crossed to each other in a single matrix in order to identify the market position of Montenegro with respect to EU or CEFTA countries (matrix of strategy of competition) and four competitiveness areas have been identified:

- Product differentiation (right lower corner of the matrix): low efficiency but high price of Montenegro's products;
- Economy of scale (left higher corner of the matrix): high efficiency and low price;
- Product and quality differentiation (right higher corner of the matrix): high efficiency and high price, and
- Poor competition (left lower corner of the matrix): low efficiency and low price.

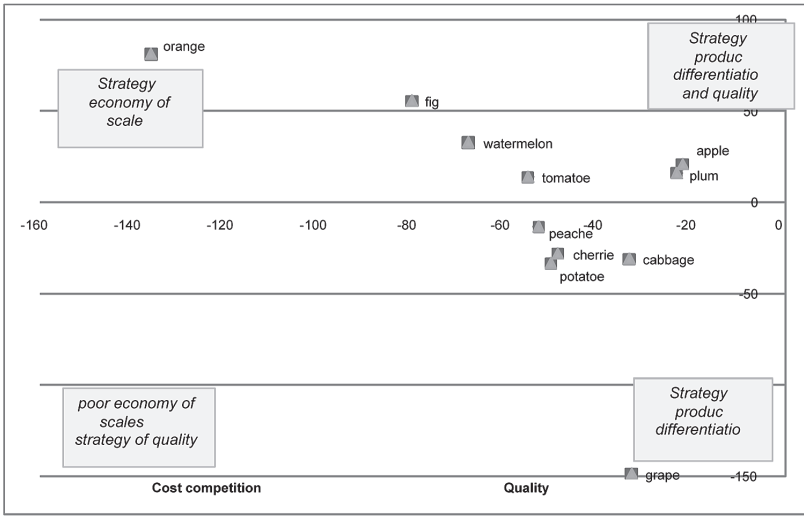

Chart 2. Matrix for competition strategy: positioning of Montenegrin horticultural products and grapes with respect to EU countries

Source: authors' calculations over data from Statistical Year Book of Montenegro, 2009, 2010 and FAOSTAT

According to the matrix, Montenegro presents all products in the negative area of values if compared with both the EU and CEFTA. Some competitiveness can be highlighted in efficiency. Montenegro shows competitive advantages for some fruits (oranges, figs, apples, plums, watermelons) and some vegetables (tomatoes) in the CEFTA market. Montenegro is also competitive for grapes in the same market, but mainly on the basis of quality since the price advantage could be quite risky, in the shot term in case of other competitors entering the market with low costs in the same area. Other horticultural products (peaches, cherries, potatoes, cabbages) are not really differentiated in the market due to quality constraints and *only seem to be competitive in the short term* (Chart 2 Matrix for competition strategy: positioning of Montenegrin horticultural products and grapes with respect to EU countries.

With respect to the EU market, Montenegro only has a good market positioning for figs and watermelons. Many others horticultural products (tomatoes, plums, cabbages) can compete solely on a price basis but have difficulties creating value-added. Consequently, strong improvements are required starting from breeding and cool chain management. Other kinds of produce (apples, potatoes, oranges) show some competitiveness in terms of product differentiation but with constraints in efficiency of production. Potatoes and fruit show a negative added-value position, while grapes are the only merchandise with a clear positive contribution to added-value. All other kinds of produce are in an intermediate position. Figs should develop the volumes of sales and also differentiate the market positioning through improved quality for successful exports to the region and CEFTA countries. Improvements in the efficiency of mandarin production is essential to compete with regional competitors, like Croatia, which produce similar varieties at larger volumes in the Neretva Valley and Markovic. In fact, if we look at the competitiveness charts, the volumes of citrus fruit should definitely be increased in order to compete on the regional and CEFTA markets, while on the demanding and crowded EU markets, product differentiation would be the best strategy to develop Montenegrin mandarins.

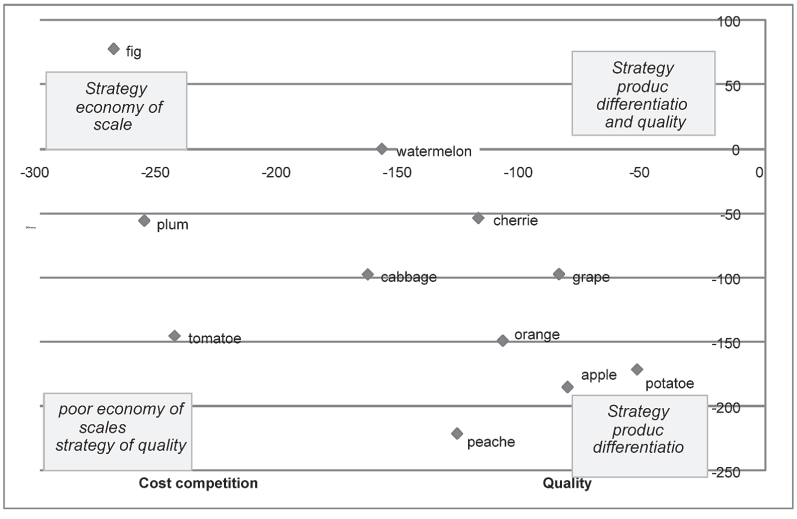

Chart 3. Matrix of strategy of competition: positioning of horticultural products and grape of Montenegro with respect to EU countries.

Source: author calculations over data from Statistical Year Book of Montenegro, 2009, 2010 and FAOSTAT

3. SWOT Analysis

The SWOT analysis has been completed according to the methodology following a PESTEL categorisation. After a long review, the final screening identified 16 Opportunities and 11 Threats that matched with 29 Points of Strength and 32 Points of Weakness. After PESTEL categorisation, the Opportunities and Threats have been grouped into three major strategic categories: "New market trends", "Sector financing" and "Structure and functioning of the value chain". The SWOT analysis exercise led to a 1,647-cells matrix with 729 cells matching Opportunities or Threats with relevant Points of Strengths or Point of Weaknesses. The identified item matches are described in Table 1 – Summary of SWOT Analysis.

Table 1. Summary of SWOT Analysis matching items

Total Cells	Total Matches	Opportunity/ Strength	Opportunity/ Weakness	Threat/ Strength	Threat/ Weakness
1,647	729	157	303	88	181

This approach has led to a reinforced and double-sided investigation of the SWOT Analysis items. From the point of view of the internal natural resources, the sector may be regarded in an optimistic way. However, as the SWOT analysis has shown, the bottlenecks prevail. With the partial exception of wine, the sector is not competitive and not very efficient. Apart from one company, Plantaze, the sector is weak and finds it difficult to stay on the market alone until the level of competitiveness and efficiency has improved; because of the poor technology and organisation, the sector is far from achieving the opportunities provided by the new market trends (pillar one in the SWOT analysis strategic categories) and furthermore faces the risk of being defeated by the threats the new market trends pose over producers and traders as the sector has insufficient strengths to tackle these threats. However, a deeper investigation shows that at this stage, the sector can find attractive opportunities for development coming from the tourism sector and a global interest for the environment and environmentally-featured food products.

The second pillar of strategic categories confirms on-field observations that the financing of the sector is a serious constraint, as the farmers lack basic financial resources and the sector cannot oppose sufficiently *to the threat* posed by the low interest of banks and financial institutions in agriculture, as they prefer investing in tourism or industrial enterprises. Indeed, crediting producers or traders is considered to be risky, so no financial resources are available in a critical amount to further develop state-of-the-art technology for producers and processors. The numerous and significant weaknesses of the sector do not contribute to increasing its appeal to banks, thus reducing the potential impact of the available EU funds, as the permanent difficulties in self-financing that farmers usually find seriously diminish the possibility of accessing them. As a consequence, farmers do not invest or even prefer stay in a "grey economy" status, perceiving this as more protective (although this may be true in the short-term only).

The examination of the third pillar of the SWOT categories "Structure and functioning of the value chain" offers a clear description of a sector that can neither benefit from market opportunities nor is capable of tackling imports, this being exposed to the risk of seeing imports growing fast. In fact, weaknesses constantly prevail in all Opportunities and Threats that are included in this strategic option, with particularly emphasis on those that refer to export opportunities and to the development of a profitable domestic market. The poor level of organisation and technology at all stages of the chain, the reduced competitiveness and the low efficiency of the sector generate enough points of weakness to make the sector extremely weak.

4. The major problems

According to the SWOT Analysis, we may identify the following major problem areas:

Inadequate inputs and range of horticultural varieties. Prevailing varieties are old and not suitable for demanding markets. Varieties of vegetables such as potatoes, tomatoes, cabbages and of fruit (apples, cherries, peaches, nectarines, etc.) should be adjusted to the market's needs. For this reason, we welcome the recent endorsement of the International Union for the Protection of New Varieties of Plants (UPOV) that Montenegro has completed and will allow for an easier introduction of modern fruit varieties. As for vines, the SWOT Analysis shows that the market acceptance of autochthonous varieties is good; keeping a focus on traditional vine varieties is therefore strongly recommended. In terms of with agricultural inputs, we identified the problems of seed prices and quality, but problems with availability and supply assortment are also not negligible. In addition to seeds, farmers find problems in sourcing fertilisers, seedlings and protection products. SWOT analysis also discovered specific problems with plant protection related to effectiveness, i.e. the quality of plant protection products and the availability and price of and level of knowledge about these products.

Inadequate growing techniques. Generally speaking, improving Montenegro's competitiveness in fruit and vegetable exports requires changes in the production system, including the implementation of new techniques and machinery, irrespective of the types applied. Two other necessary elements here are: 1) the extension of the vegetable season not only by using new cultivars, but also by means of various techniques of implementation (hotbeds, greenhouse and plastic tunnels, etc.); 2) setting up anti-hail nets above orchards and plantations to ensure less vulnerability to weather conditions.

Fragmented production. The fragmentation of farms along with the small average surface area of farm plots is a big obstacle to raising competitiveness with regard to both the quantity and the quality of production as well as farmers' ability to use their buying/selling power to reduce production costs and increase incomes. Producers are poorly linked, both vertically and horizontally. Absence of crucial connections

among producers is a consequence of associations that are underdeveloped or do not exist. While a number of co-operatives and associations have been registered in the past few years, they are not operational and do not apply basic principles of co-operative by-laws. Many organisations exist, but since they do not serve the interests of their members, no progress has resulted overall from farmers' attempts to benefit from joint activities.

Fragmented marketing. New demands made by the market have been a huge challenge to all value chain participants. Over the past 20 years, attempts have been made to follow trends and fulfil market and production demands on all levels, also with the support of international projects. Unfortunately, previous linkages have ceased to exist and need to be renewed. Wine producers have a limited market but still are capable to sell their limited production. On the other hand, the sale of fruit and vegetables is a major constraint, as irregular and no guaranteed purchases are dominant in this area of sale. Fruit and vegetable producers are faced with a saturated market that creates difficulties further along to sell the entire production, with additional bottlenecks coming from low prices, lack of demand, unfair internal competition and inadequate packaging. As the sector has had to deal with many other priorities as well, marketing and promotion have usually been left aside.

Shortage of refrigerated warehouses. An extension of the production season is also constrained by a shortage of adequate storage opportunities. Because of the lack of proper storage, some locally grown and traditionally produced vegetables must still be imported out of season as fresh goods. With proper storage, products such as carrots, parsley, celery, onions, and many others can be kept and sold with insignificant quality changes throughout the year. Also, storage inadequacy and the lack of storage space represent major constraints which would preferably be solved by additional and adequate storage capacities, although in these cases, financial shortcomings arise.

Lack of distribution/consolidation centres. Such centres should have modern technology for grading, sorting and packing fresh produce (including calibrators, floating systems, packaging, and more). An additional value of these centres will be that individual producers and co-operatives would be able to sell or deliver their products there to be washed, packed and prepared for the final buyers.

Need to introduce HACCP and Global GAP standards. It is vital for the sector to adjust farm management practices to conform to Good Agricultural Practices (GAP) including Integrated Crop Management techniques and traders and processors to adopt HACCP and GMP. Farmers, as well as some processors and traders, remain unaware of the real need for this. There is a need for dissemination of information and training about farm management, product processing and handling, food safety, international standards and certification throughout the Montenegrin farm market chain.

Inadequate packaging and labelling. Improving packaging and labelling is a very important step in the whole chain for the competitiveness of final products. While the EU market demands quality certified packaging, there are very few local producers using certified and quality food packaging that are applying safety standards. In addition, retail vs. bulk as a predominant packaging practice needs to be introduced to a greater extent.

Limited technical knowledge. Although Montenegrin farmers have a long tradition in horticultural and grape production, technical knowledge is at a low level, especially as regards the use of modern technologies. Farmers need capacity building in production, market-oriented production planning, post-harvest management, quality control and sales and marketing. Another level of technical assistance is needed for farmers' organisations.

Poor managerial skills of farmers and producers' groups. Both farmers and producers' groups have limited knowledge of farm cost management and of sources of finance (bank programmes and credits; the Ministry of Agriculture's loans and subsidies). Problems with production organisation are often reflected in the lack of adequate workforce, as the SWOT Analysis points out.

High costs of on-farm investments and the credit needed to make them. Examples of widely needed investments may include irrigation systems, mulch foil, rotating tills, narrow platforms, hail and frost protection, calibrators, packaging machines and cold storage units. The loan arrangements offered by financial institutions feature high interest rates and unfavourable conditions.

5. Conclusion and guidelines for strategy

The general objectives that should be achieved for the development of the sector, consistent with the above market drivers, are identified as follows:

- Modernise agriculture to optimise productivity within limited resources, also to reduce costs through investments in the modernisation of the farm on an individual basis and in terms of the organisation of producers for better marketing and improved production technology.
- Enhance the quality of final outputs and ensure food safety through improved technology, management and quality control at a primary production level and in the post-harvest stages of the chain (distribution, logistics, processing).
- Optimise the utilisation of resources to create better framework conditions for the production and marketing of value-added product ranges and niche products also based on local biodiversity, including branding and characterisation of products, such as GI Geographical Indication products or labelling of origin.
- Develop potential revenues, with an emphasis on improved marketing through market differentiation and the promotion of added-value products for niche markets and tourism.
- In order to benefit from trade liberalisation and from the process of integration into the EU and reach the two major targets (import substitution and exports to

the regional market), the Montenegrin sector has to increase competitiveness to shift from the current status of commodity-oriented supply to a more attractive high-value product supply. If we look more in detail at the opportunity provided by the substitution of imports of fruit, vegetables, potatoes, wine and supply materials by domestic production (SWOT), which is considered to be one of the major objectives for the sector, we have a first confirmation of the low level of competitiveness of the sector, as weaknesses strongly prevail. The Montenegrin sector is very fragmented with a high number of subsistence and semi-subsistence farmers and traditionally small field sizes.

- In more detail, the volume of domestic horticultural production has limited dimensions if compared to the global markets and major competitors (the wine sector, too, is small in comparison to major global players). This is a weakness that makes price formation more exposed, even to limited variations of supply, and requires strong market differentiation strategies. The working capital available to farmers, traders and processors is limited, producers do not have own capital available for necessary private contributions to investments and it is difficult to receive credit lines for both investments and working capital at reasonable interest rates. Also, the small-scale sector lacks marketing skills and capacities. Production for self-consumption or for the local market reduces the efficiency of the sector, the size of the potential market and the impetus to innovation, so that the supplier structure is underdeveloped, which leads to higher prices and suboptimal quality of supply materials. The small plots of land additionally reduce specialisation and average productivity and private producers and processors have difficulties in delivering consistent quality and quantity to both domestic and export markets. The accession experiences of Austria and Hungary show, in opposite ways, the importance of supply chain agreements, farmers' co-operation and the co-ordination of the sector in order to increase efficiency and competitiveness for the adequate development of the sector and its capacity to compete at an international level within the EU enlarged market.

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