Soft Fruit Sector in Croatia- Agribusiness Management Video Supported Case Study

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Summary

Goal of the paper is twofold: value chain analysis of soft fruit sector in Croatia and to present use of soft fruit sector analysis in agribusiness management education by support of video material.
Creation of value chain map and quantification of the chain is described. SWOT analysis is shaped and it is basis for endorsement of strategies for soft fruit trade on the EU and World market.
During work on soft fruit sector analysis interviews with seven stakeholders were filmed. Films were edited and clips arranged. Workbook was also created. Video material together with the workbook constitutes the case study on soft fruits sector analysis.
Main purpose of the case study is to serve as a tool for teaching students (preferably MSc level) value chain analysis in the limited data environment. It could also serve, with some modification, in preparing students to design interviews and in interviewing process.
Paper has been developed on the framework of the joint project between Wageningen UR Centre for Development Innovation and University of Zagreb Faculty of Agriculture and financed by the Netherlands government.
Keywords: *value chain analysis, soft fruits, survey, agribusiness management education*

1 Introduction

Fruit production in Croatia is mostly based on production located on family farms and in the high share not market directed. Fruit and vegetable sector represents about 10 % of the gross agricultural output. In general, in both fruit and vegetable sub-sectors a sensitive decreasing of production is recorded. Currently domestic fruit production satisfies less than 50% of domestic needs. The reasons are mostly inherited. It understands disregard and lack of recognition of fruit growing in Croatia within the period before independence. Processing was located in Croatia based on raw materials coming from Macedonia and Serbia. Also, war and war damages and shortage of more stimulating agricultural policy measures to help restructure the existing mostly extensive fruit production into working and capital intense production. Because of such unfavourable production structures and lack of organization of market, Croatia imports significant quantities of all types of fruit, apples more than 50%, pears 80% and peaches 70% of home consumption.

Nevertheless, due to good soil and climate conditions as well as geographical and biological diversity and the fact that Croatia became member of EU, fruit, namely soft fruit sector has potential to become more important as a source of family income, trade commodity and could positively influence on competitiveness of fruit farmers in the future.

Goal of the paper is twofold. First is value chain analysis of soft fruit sector in Croatia. We created SWOT analysis based on results of semi-structure interviews with stakeholders. SWOT could serve as a basis for endorsement of strategies for soft fruit trade on the EU and World market. Second is to present use of soft fruit sector analysis in agribusiness management education by support of video material.

2 Croatian Soft Fruit Sector- Value Chain Analysis

Croatia is characterized by considerable natural and climatic diversity, which is also reflected in the range of agricultural production, from traditional continental arable and industrial crops to vineyards and to Mediterranean agriculture.

About 90% of the Croatian territory is rural area. Rural area has strong decline in population growth. In predominantly rural areas, the population decline was approximately three times stronger than in predominantly urban regions.

The economic importance of agriculture is still relatively high in Croatia despite a declining trend in the last few years. The gross value added of agriculture was always above 7% between 2000 and 2006 (7.1% in 2006) but decreased to 6.8% in 2007. The same trend can be observed for the food processing industry. Both sectors play an important role on the labour market as a significant percentage of the population in working age earn their income from agriculture and the food industry.

There is a dual structure of farms: Family farms and private agricultural companies. Family farms are the core of Croatian agriculture. Agricultural households account for 99.7% of the total number of agricultural holdings, occupy 80% of utilized agricultural land (UAA), own 85% of all livestock and 98% of all tractors. The average size of family farms is 4.7 hectares. Fifty one percent of agricultural holdings contain less than one hectare and make up only 0.1% of UAA Meanwhile, the 5% of holdings with more than 10 hectares occupy 52% of the UAA. Family farms are characterized by unfavourable demographic and education structure and outdated production assets. Nevertheless, small numbers of specialized, market oriented family farms managed by younger and highly educated farmers exist too.

In the total structure of agricultural production in Croatia, arable crop production is the most significant. The largest share of the total agricultural crop production has a grain production.

Table 1.
Utilized agricultural area in Croatia, by categories (in hectares)

year	Utilized agricultural area	Arable land and gardens	Kitchen gardens	Permanent grassland (meadows and pastures)	Orchards	Vineyards	Olive groves	Nurseries
2008	1,289,091	855,416	5,337	342,430	35,933	32,741	14,971	346
2009	1,299,582	863,023	5,315	343,606	36,659	34,380	15,304	579
2010	1,333,835	899,594	4,902	345,389	32,889	32,709	17,096	429
2011	1,326,083	892,221	4,233	346,403	32,560	32,485	17,200	389
2012	1,330,973	903,508	2,933	345,561	30,846	29,237	18,100	248

Source: Croatian Bureau of Statistics, 2012

In a year 2012 total fruit production was 138 965 tons. The most abundant fruit species that were produced in the Republic of Croatia during the year 2012 were apples, tangerines and plums.

Table 2.
Fruit production in Croatia 2008-2012 (in tonnes)

Production	2008.	2009.	2010.	2011.	2012.
Apple	80,201	93,355	106,865	112,931	44,765
Plum	48,614	38,369	40,901	36,919	15,047
Tangerine	50,138	37,500	55,486	42,375	51,080
Cherries	14,674	14,125	12,064	16,980	10,825
Pear	8,849	9,950	8,715	8,929	3,455
Peach and nectarines	7,348	10,110	8,914	11,824	6,131
Strawberry	2,385	2,548	2,572	2,771	2,293

Source: Croatian Bureau of Statistics, 2012

Main soft fruit produced in Croatia are strawberry, raspberry, blackberry, blueberry and aronia (chokeberries). The strawberries make two-third of berry fruit production on domestic market with trend of further increase. This is undoubtedly the most demanded berry fruit, which is supported by significant increase of strawberry growing areas in the last 15 years.

Value of export of strawberries is about 4 times smaller than import (400,000 USD vs. 1,705,000 USD) (FAOStat data). Nevertheless, level of exports has been increasing sharply in the period 2000 to 2011. At the beginning of the 21st century export was almost zero. In the year 2010, export reached 400 thousands USD and 131 tons of strawberry. According to the same data source gross value of strawberry production in the mentioned year was USD 6.38 million while total production was 2,572 tones. Croatia exported about 5% of the produced strawberries and about 6% of the gross value of production. Main export markets are Germany and Scandinavian countries. There is no official statistical data on export-import numbers for other berry fruits. Export is rather modest but current development in blackberry, raspberry, aronia and blueberry production including organic will probably change that trend in the near future.

Development of fruit market has been followed by dramatic changes in procurement procedures by retail chains. Procurement of fresh fruit (and vegetables) changes from truck market and tradition wholesalers to dedicated wholesales or direct connections between farmers and retail chains. Today retail chains cooperate with larger fruit producers capable to ensure quantity and quality. That way chain in shorter (wholesalers are pushed out of the business) but it put additional pressures on farmers to obtain large quantities of working capital. Beside retail and classical city markets, initiative of network of city stands was introduced with the objective of providing access for farmers to market. These stands can be found all over Zagreb, at convenient places for prospective customers, such as tram stops. Farmers do not have to pay for using the stands as they are members of one of the association. They can exhibit and sell their produce at the stands However to be eligible to sell; they cannot have more than 5-10,000 plants. Thanks to this initiative, soft fruit now can be bought at numerous locations across town. Producers with more plants have to sell to wholesalers, retailers or export.

There are two main regions for berry production in Croatia:

– Vrgorac in middle Dalmatia with Mediterranean climate and County Zagreb with continental climate. Other areas favourable for soft fruit production are Northwest and Eastern part with continental climate and Istria with Mediterranean climate. An opportunity is to grow berry in the Lika and Gorski Kotar, which is so fare no exploited. Mentioned regions have mountainous climate. Due to the fertile and clean soil, water and air there is prospect for organic berry production. As a result of the mountainous climate, berry production here could complement the growing seasons of Zagreb and Vrgorac since in this area vegetation starts 2-3 weeks later. It would also offer employment opportunity in the region that is currently underdeveloped and suffers from rural depopulation.

There is increasing customer preference for organically grown products in Croatia. Market segments with high purchasing power are looking for products that contribute to their healthy lifestyle. However, the organic agricultural production in Croatia is still in infancy. The total ecological production area id 150 ha and growing every year. There is about 50 ha of ecologically grown blackberry, 20 ha raspberry, 20-25 ha blueberry and 100 ha aronia.

The substantial growth rate is due to the introduced incentive system 3 years ago: support is today double the conventional arable land or about 600 Euros. The midterm goal for Croatia is to achieve 80 000 ha under organic production, out of which orchard is 3000 ha. Out of the 1 million ha of conventional production, there is 30 000 ha orchard. The value of annual consumption of organic produce in Croatia is 54 million Euros (interviews with stakeholders) and most of it imported. It is still very modest in comparison with Western European countries but just 3 years ago this value was merely about 600 thousands Euros. The growth curve is very steep. The main market for organically produced food is Zagreb with 80% share.

Fruit and vegetable processing is one of the weakest points in the food industry, because of the insufficient production of fresh fruits and vegetables as well as because of problems caused during privatization process and lack of investments. Processing of local strawberries happens only in small scale, as artisan production of jam and similar products. Processing industries of soft fruit import strawberries from China, Poland and Spain. Increased number of supermarkets supposes more and more processed fruit, including soft fruits, will end up on the shelves there.

Currently, Croatia cannot compete with other countries in providing soft fruit for the domestic processing industries because of lack of economies of scale, high production costs and volatile quantities and quality. As result market price of strawberries is high comparing to imported ones. Based on the interviews with stakeholders, in case of blackberries, only small percentage can be put on the market in Croatia as fresh fruit in one season, the rest is processed into wine and other products. The ecologically produced Aronia is processed into juice(about 3000 litters) and sold to pharmacy (interviews with stakeholders).

The interviewed growers mentioned the following challenges for the competitiveness of soft fruit sector in Croatia: a) Reaching economies of scale. b) Investment in greenhouses and c) The opportunity in niche seasons for Croatian soft fruits: Spanish and Italian soft fruit production finishes at the end of April, Germany and Poland production start at the end of May. Croatia could find its niche by ensuring that soft berries get to the market in at the beginning of May.

Table 3.

SWOT analysis soft fruit sector in Croatia

STRENGHTS - Excellent soil and climate conditions for berry production - Geographical and biological diversity with wild berries - Tradition in strawberry production - Few brands established in soft fruit sector	**WEAKNESSES** - Small and fragmented family farms - Old farmers with low level of education and know-how - Insufficient management and marketing knowledge and project management knowledge (difficulties in application for EU funds and projects) - Lack of land market - Lack of rural finance system; investment and working capital - Underdeveloped seedlings production - Insufficient market infrastructure including postharvest management (cooling and storing places) - Underdeveloped agri-food chain without PO's and cooperatives - Risk management programs are missing or inadequate for soft (fruit) sector
OPPORTUNITITES - Access to EU market - Access to EU funds for agriculture, rural development, R&D - Demand for organically produced soft fruits - Demand from processing industry - Establishing cooperatives and efficient value chain management	**THREATS** - Competitions form EU and globally - Cost competitiveness (Poland, Spain, etc.) - Value added competitiveness (innovative and value added products) - Climate change and lack of irrigation systems - High prices of inputs

3 Video Enabling Case Study

The Case Centre defines case studies as a tool which recount real life business or management situations that present business executives with a dilemma or uncertain outcome. The case describes the scenario in the context of the events, people and factors that influence it and enables students to identify closely with those involved. Case studies increase teaching effectiveness and, no matter do you use it in teaching management, marketing or finance, it is useful when introducing new concepts, in developing skills in the analysis of the problems and decision making and in stimulating creativity in developing case solutions.

During work on soft fruit sector analysis interviews with seven stakeholders (two from R&D sector, two farmers, manager of agribusiness company, expert from the Ministry of agriculture and consultant in organic production) were filmed. Films were edited and clips arranged. Workbook was also created. Video material together with the workbook constitutes the case study on soft fruits sector analysis.

Case study comprises of six modules. Case study starts with the introduction to the assignment. Students are put in the position of consultant which should prepare assessment of soft fruit sector in Croatia and business opportunities for agribusiness companies either in input sector (seedlings, fertilizers, machinery…) or upstream in the chain. Module 1 starts with self-reflection questions (current knowledge of the sector: micro and macro environment). After self-reflection questions, students start to prepare for the assignment. They are supposed to create a plan of action which consists of learning questions, activities, time and requirements. At the end of the assignment, students compare expected results with real one.

Module 2 encompasses sector assessment and starts with preparation for interviews (group work). Students are supposed to detect stakeholders they want to reach and information they are expecting to get from stakeholders. After interviews (actually after they watched video clips), every group prepares reflection on interview. Students evaluate quality of collected information (max. of 3 interviews) and based on it make plans further interviews and additional stakeholders (Module 3). Module 4 is synthesis of information gathers and strategies for the business.

Table 4.
Main characteristics of the modules 1 to 3

	Module 1	Module 2	Module 3
Name	Soft fruit sector in Croatia	Actors in a chain	Alternatives and interventions
Orientation	Technical focus	Problem analysis	Alternatives and Interventions
Method	Individual	Group-work	Group-work/ individual
Resources	Workbook Internet, books Reflective journal	Workbook Filmed interviews Reflective journal	Workbook Reflective journal
Assessment	Self-test	Group presentation Discussion	Group presentation Debate Individual essay

Last two modules (modules 5 and 6) are about students' reflection on learning experience and group work.

Main purpose of the case study is to serve as a tool for teaching students (MSc level and MBA) value chain analysis (in the limited data environment). It could also serve, with some modification, in preparing students to design interviews and in interviewing process.

4 Conclusions

Due to favourable climate and soil conditions, developed tourism and demand for traditional and functional food, Croatian soft fruit sector can compete on EU and Word market. Nevertheless, numerous constraints should be eliminated and/or soften. In the field of technology the most important issues are supply and production of high quality plant material, introduction of the new varieties, improvement in irrigational and fertilization technology, greenhouse technology (soilless production, pollinators and predators of pests and tests for diseases and pests). Investments in growing and processing fruits are also crucial.

Knowledge transfer and improvement of consultancy and extension sector with the up-to-date information and their dissemination is also very important, especially knowledge of organic production.

Last but not the least, management and marketing knowledge! Although, education and research in the field of agricultural economics have a long tradition in Croatia, there is a gap between business sector needs and what academia supply. The case study should help in decreasing mentioned gap by providing new educational tool and way of transferring knowledge of management and marketing in value chains.

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