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Strawberry Market Research, Case Study: Cooperative Shamatia

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Strawberry Market Research & Case Study: Cooperative Shamatia

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ENPARD - Cooperation for Rural Prosperity in Georgia

ISET MA Program in Economics
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Any errors in this text are the responsibility of the authors.

1 RESEARCH METHODOLOGY

This study is based on desk and field research, which included a literature review on strawberry production and analyses of statistical data from various sources (FAOSTAT, GEOSTAT, Ministry of Agriculture, etc.). With regard to field research, face-to-face interviews were conducted at the “farm gate” with members of the cooperative “Shamatia” – the first interview took place in the summer of 2015, and the second in April 2016. In addition, a phone call interview with a cooperative member was conducted in August 2016.

2 STRAWBERRY PRODUCTION AROUND THE WORLD

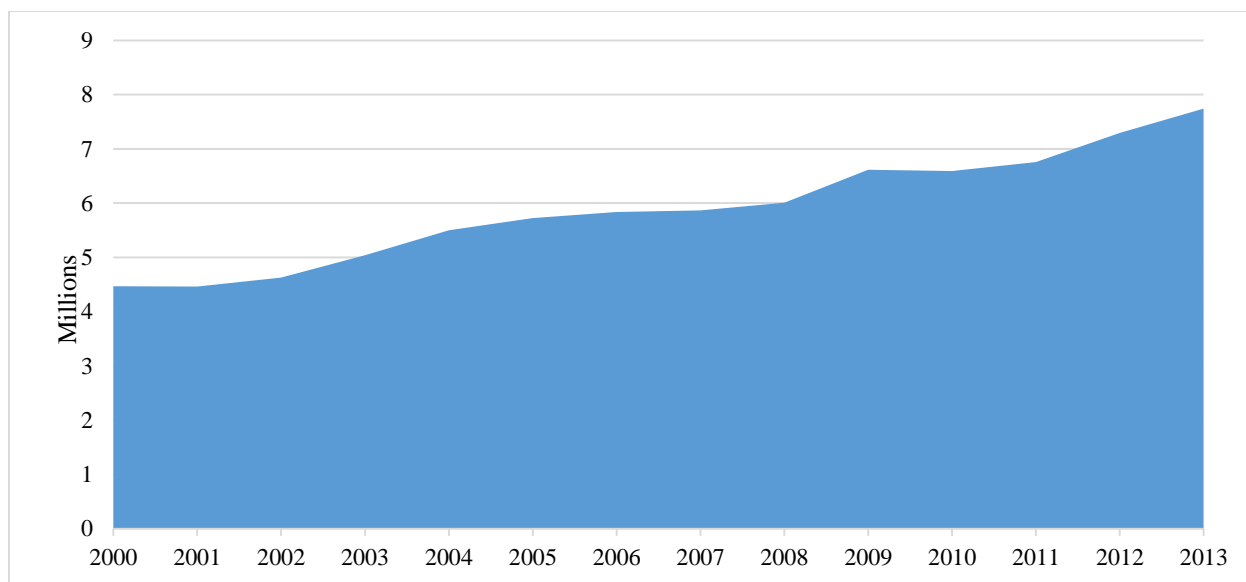
In addition to the fact that strawberries are one of everyone’s favorite fruits, it also is an excellent source of antioxidants and numerous other benefits associated with health (Panico, et al., 2009). This provides a considerable incentive for consumers to increase strawberry consumption, and for producers to increase production.

The most popular strawberries demanded by consumers are fresh strawberries. The strawberry is a seasonal fruit that in earlier times was impossible to consume during the entire year, because strawberries are among the most perishable products. The strawberry can also be consumed as jam or stewed (compote); strawberry flavor is also popular in yogurt, ice cream, bakery, etc.

These days, as with many products, people demand fresh strawberries not only during the season, but all year long. The demand by hotels and restaurants is continuous, and a sufficient supply of strawberries is needed. Technological progress, like developing the greenhouse industry, as well as storage and transporting facilities, has led strawberry producers to expand their production capacities in order to produce and sell strawberries year-round. Consequently, over the last two decades, strawberries have experienced one of the highest rates of consumption and production growth among all fruits and vegetables. (Boris, Brunke, & Kreith, 2006).

Figure 1 below shows the trend of world strawberry production; since 2000, it can be seen that the production of strawberries has almost doubled.

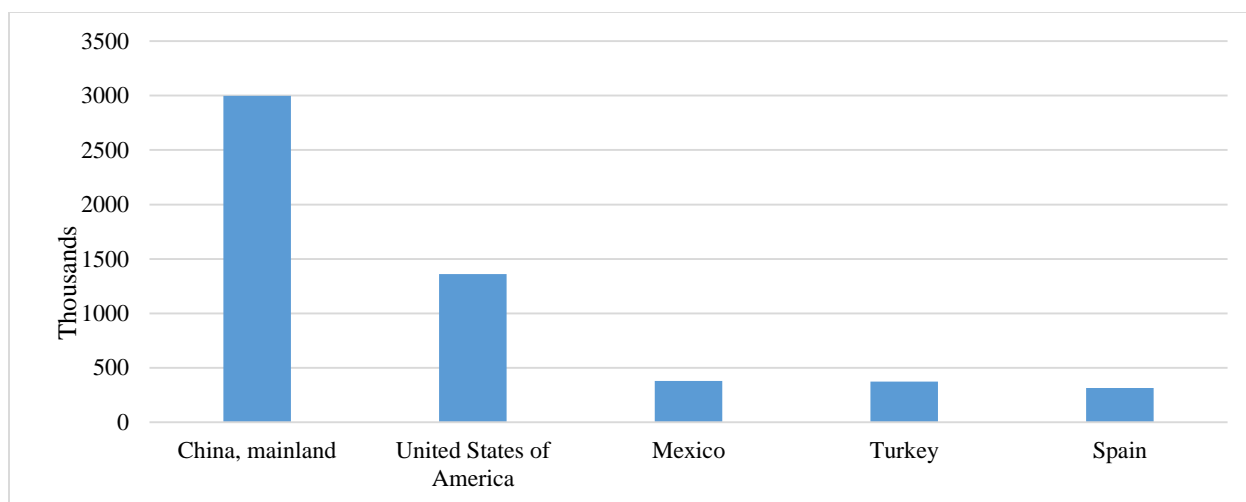
Figure 1: Strawberry Production in the World (2000-2013, million tonnes)



Source: FAOSTAT (data as of July 12, 2016)

According to Food and Agricultural Organization of United Nations (FAO) data, in 2013, the top five strawberry producer countries worldwide were: China (mainland), USA, Mexico, Turkey and Spain (see Figure 2). Total worldwide production volume was 7740 thousand tonnes in 2013.

Figure 2: Top 5 Strawberry Producer Countries in the World (2013, thousand tones)



Source: FAOSTAT (data as of July 12, 2016)

We see that main exporter country in 2015 was Spain by the exported value of strawberries, while the main importer country was USA. More information about main exporter and importer countries can be seen in Table 1.

Table 1: Top Strawberry Exporter and Importer Countries in the World (2015)

Top Exporters	Value (thousand USD)	Volume (tonnes)	Top Importers	Value (thousand USD)	Volume (tonnes)
Spain	608,311	283,100	USA	413,171	142,498
USA	436,115	134,256	Canada	316,184	100,319
Netherlands	259,180	58,797	Germany	228,065	100,035
Mexico	208,024	92,260	UK	221,579	54,274
Belgium	167,893	53,434	France	178,318	78,041
World (total)	2,193,320	887,417	World (total)	2,415,735	883,179

Source: Trademap.org (data as of July 12, 2016)

3 STRAWBERRY PRODUCTION IN GEORGIA

The data about strawberry sector in Georgia is quite limited. According to FAOSTAT data, during 2011-2013, total strawberry production in Georgia went down from 1800 tonnes to 700 tonnes (unfortunately, earlier or later data is not available). In addition, out of 79 strawberry-producing countries around the world, Georgia was 71st in production volume in 2013. However, due to many governmental and donor-supported programs and projects recently launched in the Georgian agriculture sector, the country has seen an increase in strawberry producing farmers or cooperatives, so we assume that the production of strawberry is on an upward trend now.

From Table 2, we can see that strawberry export from Georgia is very low; for some years, it was even zero. In spite of this fact, Georgia is a net strawberry importer country.

Table 2: Georgia's Strawberry Export-Import in 2010-2016* (thousand USD)

	2010	2011	2012	2013	2014	2015	2016*
Import	94.2	78.5	74.9	117.0	143.8	91.4	317.3
Export	-	-	0.3	-	2.8	1.7	-

Source: National Statistics Office of Georgia. *6 months of 2016.

In the first six months of 2016, Georgia mainly imported strawberries from Turkey (739 tonnes) and a very small amount from Greece (5 tonnes). There was no export in the first four months of 2016, though in 2015, Georgia exported a very small amount to Kazakhstan (2 tonnes) and in 2014, to Azerbaijan (3 tonnes). Table 3 shows more detailed information about strawberry export-import in Georgia in 2015.

Table 3: Georgia’s Strawberry Export-Import in 2015

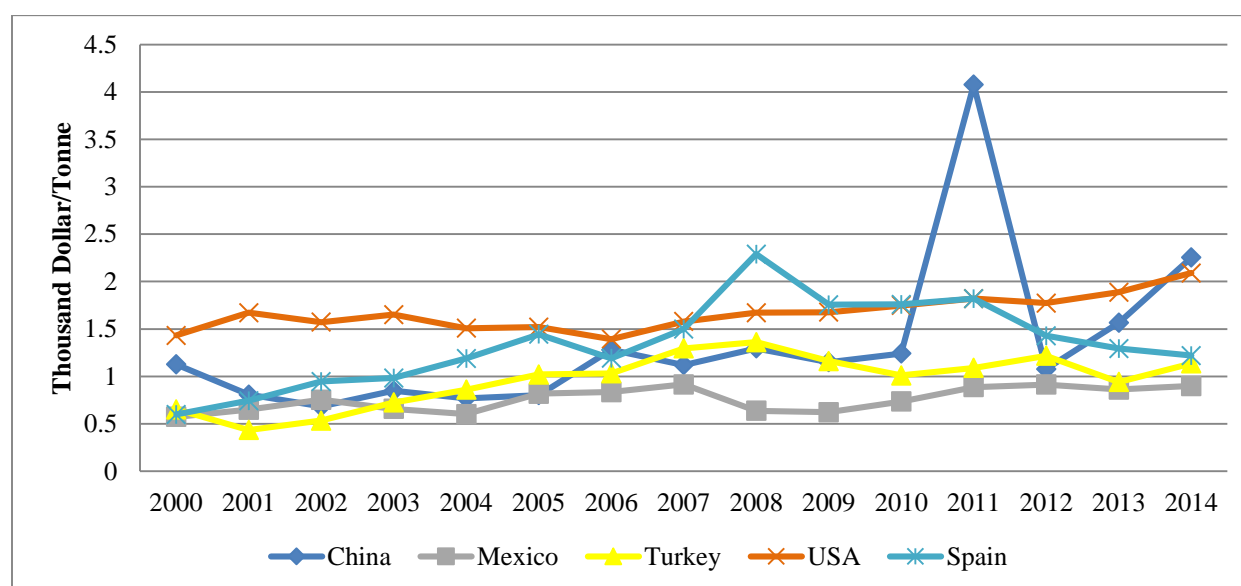
Import Countries	Value (thousand USD)	Volume (tonnes)	Export Countries	Value (thousand USD)	Volume (tonnes)
Turkey	90	137	Kazakhstan	2	2
Egypt	1	1			

Source: Trademap.org (data as of July 12, 2016)

4 PRICES ON STRAWBERRIES

According to the Food and Agricultural Organization of the United Nations (FAO), the prices of strawberries varies across countries. In the figure 3 below one can see the prices of strawberries in US/tonnes for various countries which have the highest production level of this commodity.

Figure 3: Strawberry producer prices across countries (USD/tonnes)

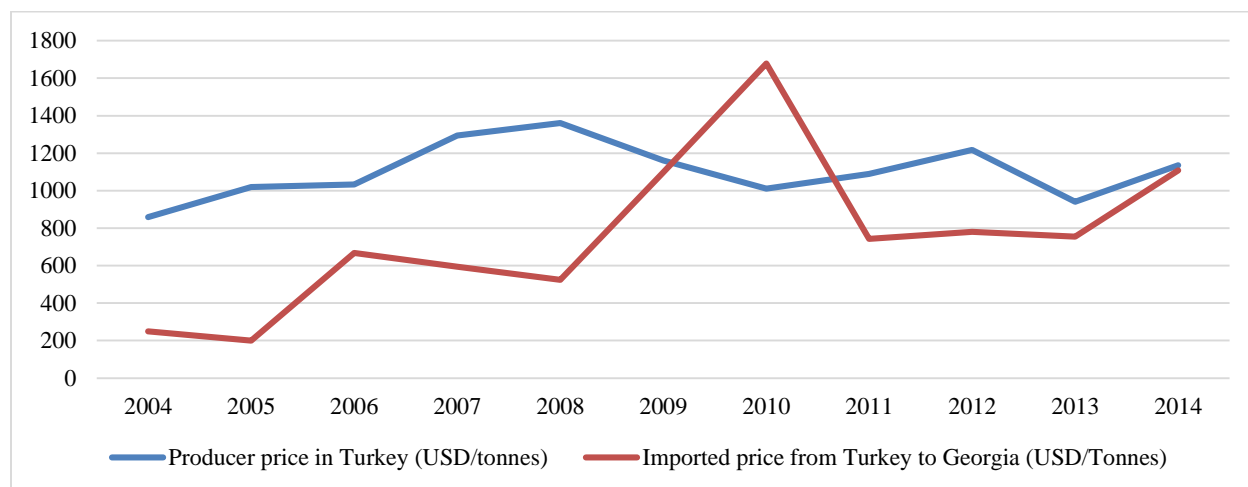


Source: FAOSTAT (data as of July 22, 2016)

4.1 Turkey

Turkey is the main strawberry importer country for Georgia (~98%). According to the data provided in the figure 4 below, the producer price of strawberries in Turkey is always higher than the imported strawberry price to Georgia, which is puzzling since it should be vice-versa for profitable businesses. One possible explanation (if it is not a data problem) may be the well-known subsidies for unit export products in Turkey, which might compensate for the difference between producer and imported prices.

Figure 4: Strawberry producer price vs. imported strawberry price from Turkey to Georgia

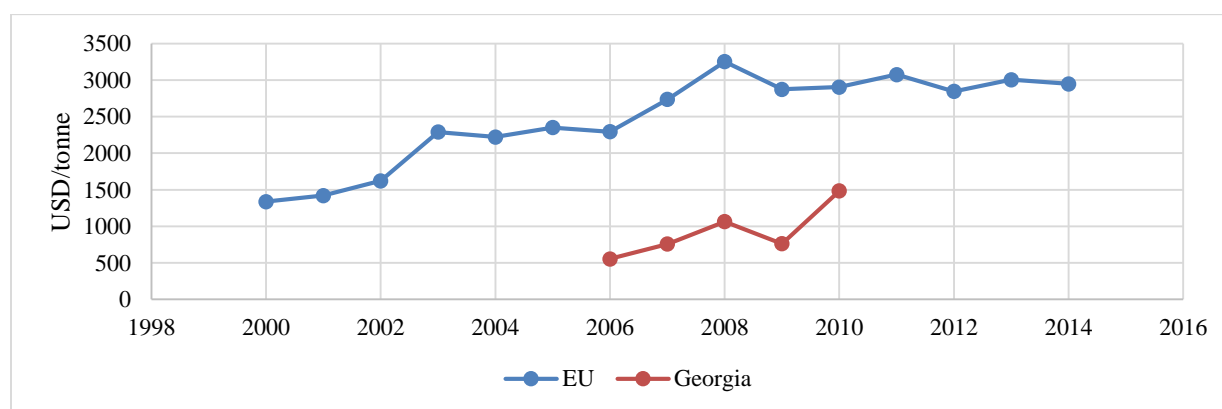


Source: FAOSTAT and Trademap.org (data as of July 22, 2016)

4.2 European Union and Georgia

The next figure provides the average strawberry producer prices in the European Union and Georgia. It is noticeable that the producer price of strawberries in the EU is higher than in Turkey or in Georgia. However, the EU's strawberry market is supplied by EU member countries themselves; finding Turkish strawberries in EU markets is very difficult, because of strict regulations on the import of this product to the EU market.

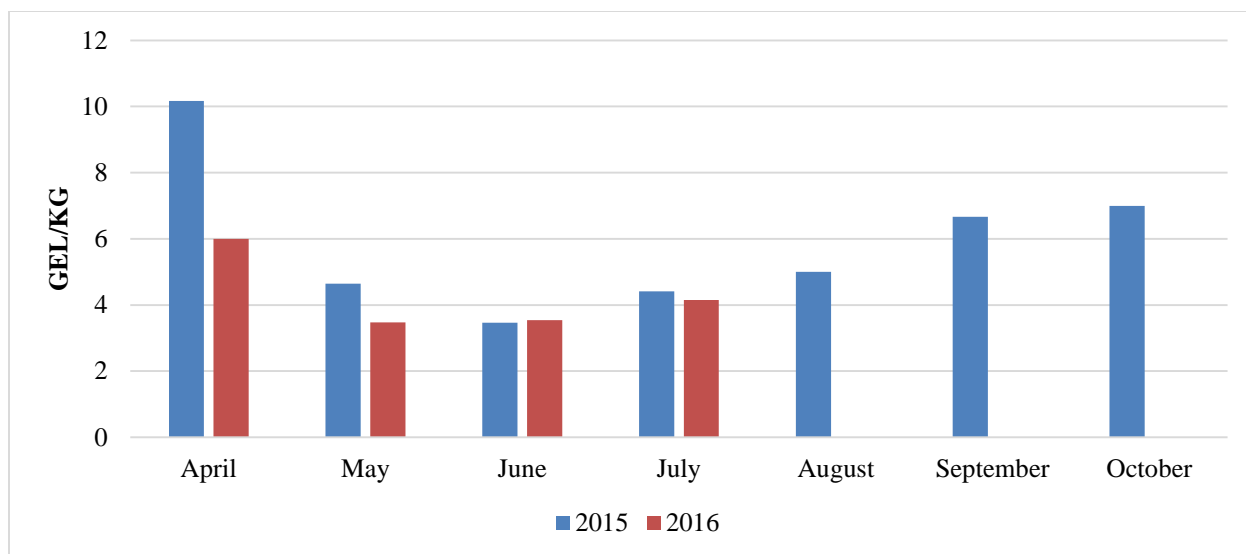
Figure 5: Strawberry producer prices: EU vs. Georgia (USD/tonnes)



Source: FAOSTAT (data as of July 22, 2016)

According to the weekly data collected by regional representatives of the Ministry of Agriculture of Georgia, the average price of fresh strawberries varies across months (Figure 6).

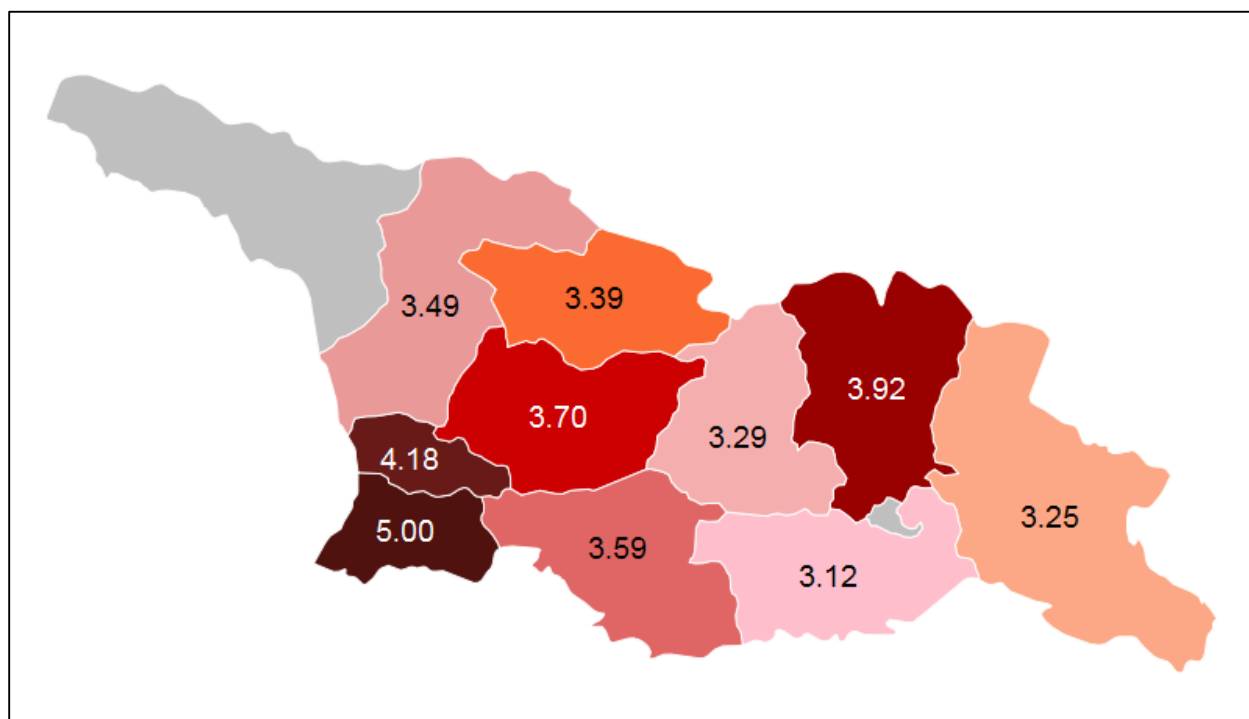
Figure 6: Strawberry consumer (average) price in Georgia (GEL/kg)



Source: Regional Offices of Ministry of Agriculture of Georgia.

As for strawberry price differences among the regions of Georgia, in June 2016, when the price of strawberries is the lowest due to high production season, the lowest price was observed in Kvemo Kartli (3.12 GEL/KG), and the highest in Adjara (5.00 GEL/KG). See Figure 7 below.

Figure 7: Strawberry consumer (average) price across Georgia in June, 2016 (GEL/kg)



Source: Regional Offices of Ministry of Agriculture of Georgia (June 2016 data).

5 CASE STUDY – COOPERATIVE “SHAMATIA”¹

5.1 The Shortest Road to Strawberry Field Isn't Always the Sweetest, or Quickest

Nino Kvirkvelia and her husband Irakli Todua are not exactly your typical Georgian smallholders. Both spouses are well-educated (both hold economics and business degrees from reputable Georgian institutions). More importantly in the context of Georgian agriculture, the couple owns 28 (!) hectares of arable land in Georgia's horticultural heaven, Samegrelo, best known for its hazelnuts. This is a fantastic amount considering that the average size of agricultural plots in Georgia is only slightly above 1 ha.

A natural born entrepreneur, Irakli was among the first Georgians to benefit from a government-subsidized loan in 2013, and venture into the then-new bay leaf nursery business, which has since become a Cinderella story of Georgian agricultural exports. It was only natural that Irakli and Nino did not think twice when a new opportunity presented itself at their doorstep in village Guriphuli (Khobi municipality) in the form of an ENPARD consortium representative.

ENPARD, which stands for European Neighborhood Program for Agricultural and Regional Development, sought to promote agricultural cooperatives as a means of bringing the badly needed scale and efficiency to Georgia's terribly fragmented fields. And, indeed, the opportunity was about getting some new business going in the form of an agricultural co-op, with the help of an ENPARD grant and additional support from the government's Agricultural Cooperation Development Agency (ACDA).

The opportunity was too good to pass on, but there was literally no time to think twice (or even once); the first ENPARD messenger arrived in Khobi in March 2014, with only a few weeks remaining till the deadline of ENPARD's "business idea" competition. The couple quickly agreed that the new business would be Nino's to develop and manage. A refugee from Abkhazia (her family escaped the war and settled in Samegrelo when she was 9), Nino remembered her love for growing (and gobbling) strawberries. And thus her business idea was born: a modern strawberry greenhouse to compete with low-quality imports that inundate the country in the off-season period.

To qualify for an ENPARD grant, Nino invited four locals to contribute their labor to the cooperative effort. The cooperative ("Shamatia") was formally registered with ACDA in the summer of 2014, after Nino's business idea passed the first stage of the ENPARD competition. Given Nino's clear leadership role and the fact that practically all assets in the cooperative's ownership (starting with land) were contributed by Nino and Irakli, the couple acquired a controlling stake (more than 2/3) in the business, with four other members sharing the rest.

5.2 Success has Many Fathers...

"Shamatia" was among the first ten cooperatives selected for ENPARD's Care consortium funding and technical support. The latter included business training and expert consultations, but what mattered most for Nino, Irakli and their partners was, of course, ENPARD's financial contribution, a so-called "recoverable grant" of about 46 thousand GEL. The term "recoverable" suggests that the entire grant amount would have to be paid back at some point in the future, but given the lack of legal and procedural clarity (pay back when, how much, to whom; sanctions in case of non-payment?), the team could get the impression that a recoverable grant is just ... a grant.

¹ This was first published in the ISET Economist blog: <http://iset-pi.ge/index.php/en/iset-economist-blog-2/entry/the-shortest-road-to-strawberry-field-isn-t-always-the-sweetest-or-quickest>

ENPARD funding and Shamatia's own contribution of 17 thousand GEL brought the total initial investment to about 63 thousand GEL, enough to build two state-of-the-art greenhouses (540 m² each), equipped with a modern drip-irrigation system, ventilation, and heating ovens operating on hazelnut shells (as appropriate for a greenhouse built in Samegrelo). Complete with storage and drainage, a security booth, and even a mini-tractor (purchased at a 25% discount provided by ACDA), by April 2015, the two greenhouses were ready to receive the first seedlings of the "San Andreas" strawberry variety, four thousand of them.

And then the trouble started...

The locally purchased strawberry seedlings were doing just fine for the first 10 days, but then started to wilt. Many local "experts" offered their opinions and suggestions for treatment, but the four thousand San Andreas seedlings would not live another day. A post-mortem examination of the seedlings, as well as the local soil and water samples in a European laboratory, revealed that the seedlings were infected with a lethal disease. The cost of laboratory tests (€400) brought the total amount of damages to well over 15 thousand GEL, including the loss of six months' worth of income.

5.3 Learning from Own Mistakes

This could have been the end of Shamatia, but Irakli and Nino had the financial stamina for a fresh start, this time guided not only by sweet childhood memories, but also first-hand experience and advice arriving in the form of a qualified international expert provided by the Georgian Association of Berry Producers. The entire plot under the greenhouses was disinfected. Three thousand new strawberry seedlings, about 50% of total Shamatia capacity (to reduce the risk of another grand failure), were ordered from Spain at the rather attractive price of 1.2 GEL per seedling. The second round of planting took place in October 2015, following proper preparation of the soil (mixing it with straw).

Currently, the future of Shamatia seems to be bright. The productivity of San Andreas strawberry plants peaks after two years, but the plants may last 4-5 years, allowing the team to accumulate sufficient financial resource for replanting and additional investment. While the first harvest, in February-March 2016, was rather modest, the next one, planned for March-July 2017, may reach 2 tonnes, i.e. about 0.5 kg per seedling (compared to the maximum capacity of 1.2 kg for the San Andreas variety). Another harvest is expected in November and early December. Achieving higher productivity would require continuous harvesting during 10 off-season months through the use of heating. This, however, does not (yet) make sense in Georgia's specific strawberry market situation.

5.4 Cooperation in Marketing?

A very important business dilemma facing Shamatia is the choice of the harvesting period. Strawberries fetch the highest prices (up to 10 GEL) in winter time, yet producing during the cold season would require switching on expensive heating. Unfortunately, Shamatia's modest production volumes do not allow it to sell through modern supermarket chains, most of which will only work with suppliers able to deliver 80-200 kg of standardized strawberry on a daily basis. Thus, Shamatia's only choice is to sell in the local markets (Khobi, Senaki and Zugdidi) at the much lower price of 3.5-5 GEL during the warm seasons. At the given capacity and market environment, there is no reason for Shamatia to switch on an expensive heating system and expand the harvesting period.

Importantly, a small farming enterprise may be locked into this kind of "bad equilibrium;" in the absence of resources to expand production volumes to meet modern retail (and certainly export) requirements, small farms (and small production cooperatives) may be forever doomed to supply only the local markets, competing with each other rather than with importers.

Given the sheer size of their agricultural holdings, Irakli and Nino may be able to break out of this vicious cycle. To this end, they plan to add two more greenhouses (including a hydroponic one!) and plant open field strawberries to keep themselves busy during the warm seasons. As far as their smaller competitors are concerned, the only way out is to come together in the form of a regional marketing cooperative. For the moment, the ENPARD's Care consortium is supporting four strawberry production cooperatives, including Shamatia, in the Samegrelo and Guria regions, for a total of nine greenhouses. If/when all of them reach full capacity, they may be able to produce 15-25 tonnes of strawberries per year, enough to qualify for a lucrative, long-term supply contract with Georgian supermarket, hotel or restaurant chains. Making this dream become a Georgian reality will require a lot of planning and coordination, not to mention real agronomical expertise and business calculation.

BIBLIOGRAPHY

Panico, et al., Antioxidant activity and phenolic content of strawberry genotypes from *Fragaria x ananassa*, Research Article, *Pharmaceutical Biology*, 2009; 47(3): 203–208.

Boris, H., Brunke, H., & Kreith, M., Commodity Profile: Strawberries. *Agricultural Issues Center at University of California*, 2006.

Food and Agriculture Organization of the United Nations (www.fao.org/faostat), accessed July, 2016.

National Statistics Office of Georgia (www.geostat.ge), accessed July, 2016.

Regional Offices of Ministry of Agriculture of Georgia, June, 2016.

Trade Map (www.trademap.org), accessed July, 2016.