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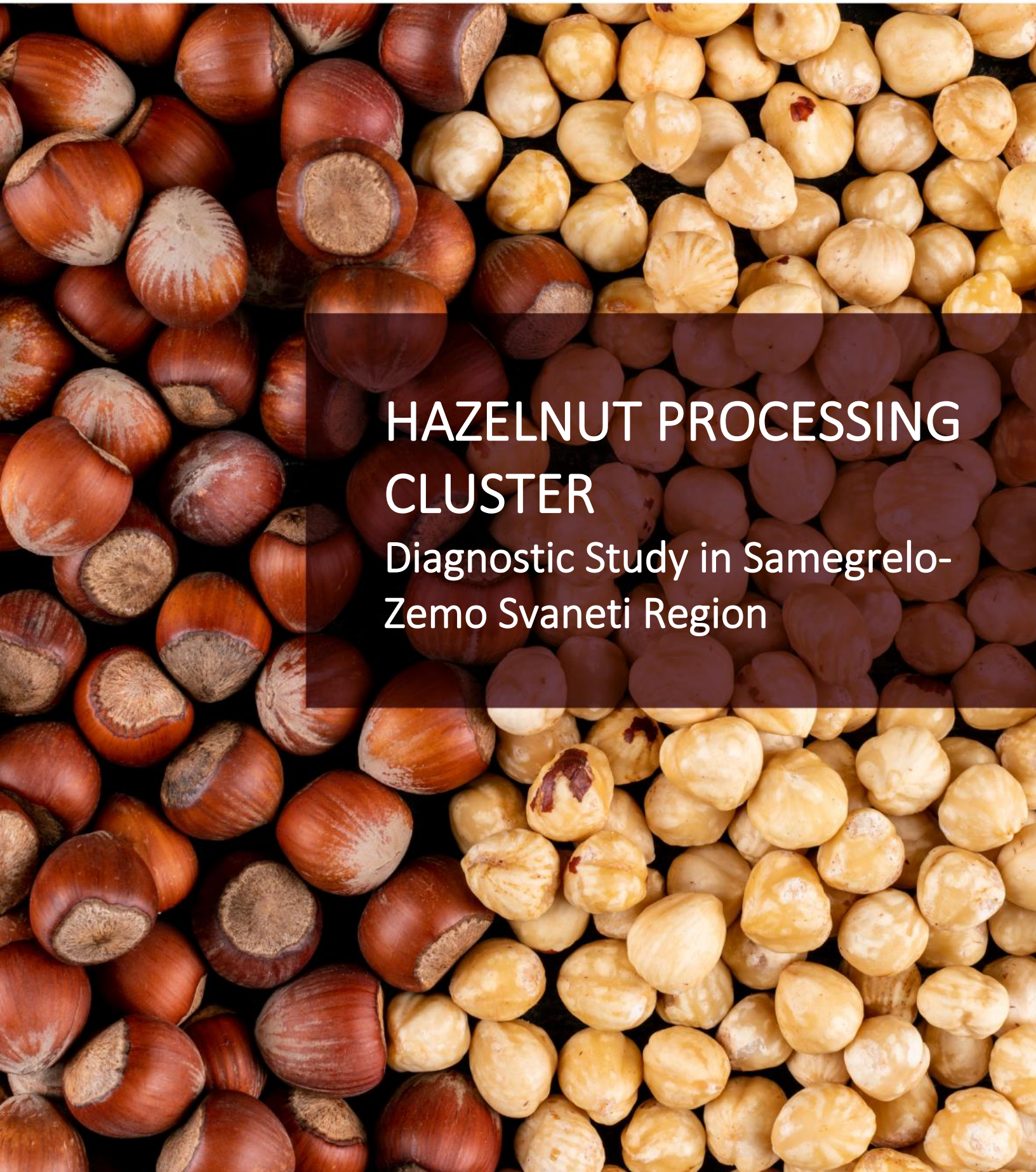

HAZELNUT PROCESSING CLUSTER

Diagnostic Study in Samegrelo-Zemo Svaneti Region

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in Samegrelo-Zemo Svaneti Region

EU Innovative Action for Private Sector Competitiveness in Georgia (EU IPSC)

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1 | INTRODUCTION

The Cluster Diagnostic Study has been prepared under the program EU Innovative Action for Private Sector Competitiveness in Georgia (EU IPSC). The Program is a joint initiative of the European Unions and four UN Agencies – United Nation Development Program (UNDP), the Food and Agriculture Organization (FAO), United Nations Industrial Development Organization (UNIDO) and the International Organization for Migration (IOM). The overall objective of the UN Joint Program (UNJP) is to enhance entrepreneurship and business sophistication by strengthening the capacities of the government and local entities to develop and operate clusters; support companies directly with strategic investments and better connect to diaspora groups, while also demonstrating the effectiveness of these strategies in businesses.

UNIDO's component of the UNJP aims at strengthening the capacities of policymakers and other stakeholders to identify and develop clusters. In 2019, UNIDO conducted a mapping of emerging and potential manufacturing and agribusiness clusters in Georgia. The study identified 57 clusters in Tbilisi and 9 in regions; it ranked them according to a set of criteria comprising of economic, social, and environmental factors.

Out of 57, eight clusters were selected for an in-depth diagnostic study based on the following four criteria:

1. Highest growth potential (from top 20 clusters)
2. Priority clusters for the government
3. No prior diagnostic studies conducted for the cluster
4. No major technical assistance provided by development partners to support the cluster development

This study has been prepared according to the UNIDO cluster development approach by PMC Research Center under the supervision of the UNIDO Project team: Ms. Ebe Muschialli, Associate Industrial Development Expert, Mr. Vedat Kunt, International Cluster Expert, and Mr. Giorgi Todua, National Project Coordinator, and overall guidance of Mr. Fabio Russo, UNIDO Senior Industrial Development Officer.

This diagnostic study is prepared for a hazelnut processing cluster, which is a part of a broader agglomeration of businesses oriented at processing and preserving fruit and vegetables, located in Samegrelo-Zemo Svaneti Region.

The study is structured as follows:

At the first stage, the cluster was defined by specifying the product and location; cluster location map and production process were identified, and the history of the cluster was reviewed.

At the second stage, international and national scenario as well as the features of benchmark cluster(s) were examined and vital statistics of the hazelnut processing cluster was analyzed. Moreover, comparative value chain analysis of representative products was done and the nature of cooperation in the cluster was analyzed.

At the final stage, business operation and cluster analysis were done, the vision of the cluster was developed, current pressure points and objectives of the cluster were defined.

2 | METHODOLOGY

To undertake the activities defined under the given diagnostic study, a combination of approaches including the review of the relevant documents, secondary data sources, individual interviews and focus group meeting with key stakeholders were conducted.

In total, 20 in-depth interviews and 1 focus group meeting were conducted. The distribution of interviews is given in the table below:

Table 1: Number of in-depth interviews conducted

Core Enterprises and Support Institutions	Number of Interviews
Core Enterprises	12
Associations	2
Government Agency	1
VET Institution	1
Financial Institution	1
Laboratory	1
Donor	1
Farmer	1
Total Number	20

3 | DEFINITION OF THE CLUSTER

Processing and preserving fruits and vegetables represent strategic sector for Georgia's economy. It has historical roots and visibility shaped by location and climatic advantages, agriculture traditions and industrialization path of the Soviet period, when Georgia's industry was one of the advanced in the Union. The current trend of the sector development is shaped by the intensive state support programs for primary agriculture and processing industries, enlargement of FTAs and enhanced access to international markets such as EU, China and EFTA. It is also influenced by the growth in tourism industry (before the COVID 19 crisis) where one of the main motivations of visitors is to taste Georgian food and drinks, thus creating possibilities for hidden export of processed fruit and vegetables among other.

Location

The natural regional cluster consists of agglomeration of 112 food and vegetable processing companies. Most of 112 enterprises are LLCs, and many of them are located in Zugdidi Municipality.

Table 2: Number of enterprises in processing and preserving fruits and vegetables in Samegrelo-Zemo Svaneti by form of ownership

Form of ownership	Total number
LLCs	80
Cooperatives	2
Individual entrepreneurs	36

Source: The National Statistics Office of Georgia, Business Register

The majority of enterprises are located in Zugdidi Municipality. The distribution of companies according to the municipalities of Samegrelo-Zemo Svaneti are given in Table 1 below.

Table 3: Number of enterprises in processing and preserving fruits and vegetables in Samegrelo-Zemo Svaneti by municipality

Fruit and Vegetable Processing and Preserving	
Municipality	**Total number**
Zugdidi	80
Senaki	11
Poti	1
Martvili	4
Tsalenjikha	8

Khobi	1
Chkhorotsku	7
Total	112

Source: The National Statistics Office of Georgia, Business Register

Product

According to the Business Register of the National Statistics Office of Georgia, most enterprises in the fruit and vegetable processing sub-sector in Samegrelo-Zemo Svaneti Region are operating in hazelnut field. In addition, according to the study conducted by PMC Research Center in 2019 "Sectoral Analysis of Regional Markets in Georgia by Using the Components of Smart Specialization", it was identified that under the sub-sector of fruit and vegetable processing in Samegrelo-Zemo Svaneti, most of the enterprises are processing hazelnuts [1].

Hazelnut processing enterprises differ by the variety of products offered. Almost all enterprises offer hazelnuts in shell and hazelnut kernels (natural products from hazelnuts), while some of them also produce more sophisticated products, such as roasted (blanched) hazelnut kernels, hazelnut meal, chopped hazelnuts and hazelnut paste. One interviewed enterprise under this research, NUTSGE, is also engaged in producing almonds and cashews, while World Nuts was temporarily engaged in production of walnuts. Moreover, each enterprise sells hazelnut shells that remain after the cracking process, mostly to the general public, who use it as firewood.

The summary of hazelnut products and respective number of firms producing them (according to the results of the conducted interviews) is presented in the table below:

Table 4: Hazelnut products

Product:	% of interviewed firms
Hazelnuts in shell	100%
Hazelnut kernels	100%
Chopped hazelnuts	45%
Roasted hazelnut kernels	55%
Hazelnut meal	55%
Hazelnut paste	18%

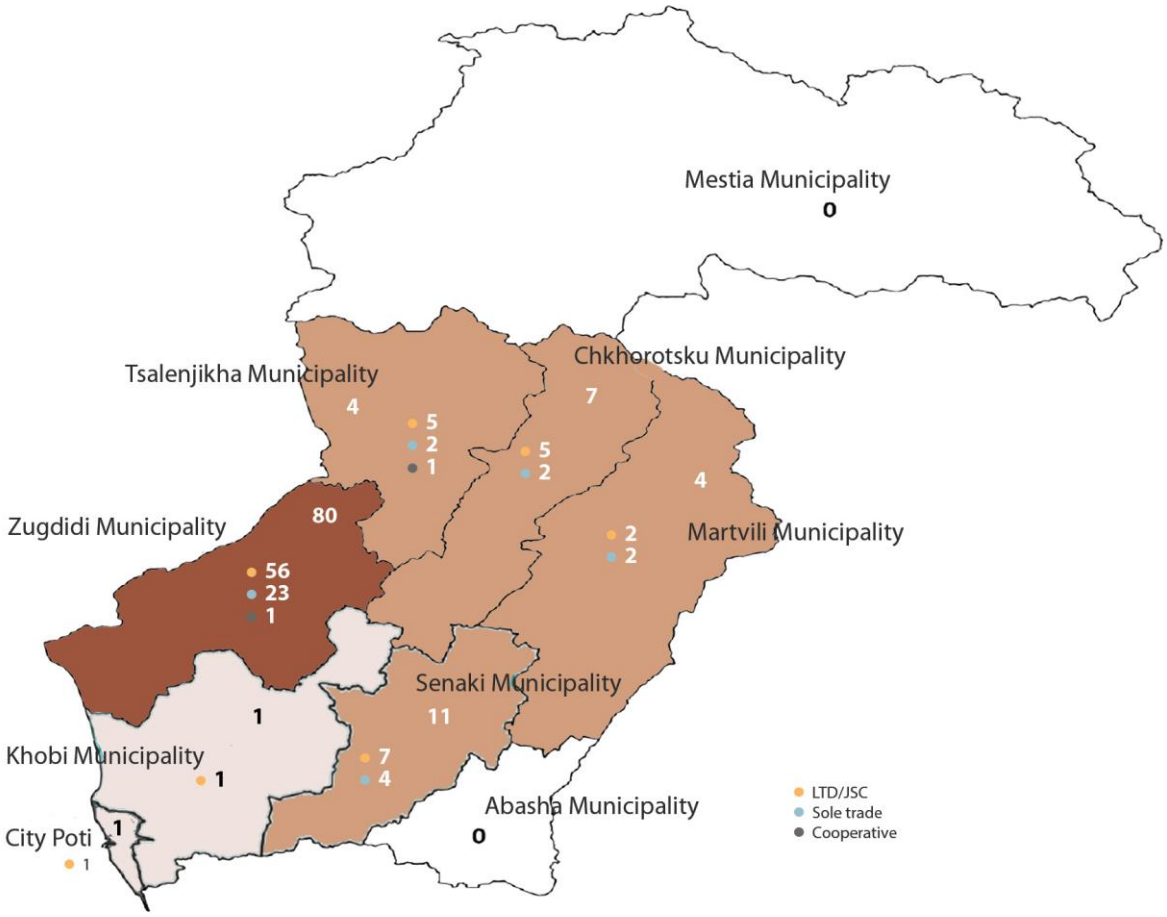
Source: Field research

When asked how the variety of their products changed over the past 3 years, the vast majority of the respondents replied that there had been no change in the variety of products, while only 1 enterprise reported an increase.

[1] https://pmcresearch.org/policypapers_file/cf145d39a76580068.pdf

4 | CLUSTER LOCATION MAP

The cluster map below demonstrates distribution of enterprises in the municipalities of Samegrelo-Zemo Svaneti Region:



5 | PRODUCTION PROCESS

The production process of hazelnut kernels has five main steps, and five machines of its processing line are involved:

1. In-shell hazelnuts go into hazelnut dryer machine, where it is kept until the necessary conditions for the hazelnuts to crack are met.
2. After the conditions are met, hazelnut is moved by the processing line to the gauging machine, where in-shell hazelnuts are differentiated according to their sizes
3. After gauging process, the third machine cracks hazelnuts and separates shell from kernels
4. Hazelnut kernels go to another gauging machine, this time differentiating the sizes of hazelnut kernels
5. The fifth and the final part of the processing line is the most labor-intensive: workers (and mostly female workforce) pick out rotten hazelnuts off the conveyor belt.
6. Packing

Picture 1: Hazelnut drying machine (1)

Picture 2: Conveyer belt for picking out rotten hazelnuts

Picture 3: Hazelnut gauging and cracking machines (2), (3) and (4)[2]

[2] https://www.tondefoodmachine.com/nut-processing-machine/hazelnut-shelling-machine.html

Raw materials and inputs

Primary hazelnuts used during the production process are grown in Georgia, mainly in Samegrelo-Zemo Svaneti Region, however, some of the respondents also buy hazelnuts from Abkhazia, Guria and Kakheti regions. Some enterprises import other nuts like almond or cashew[3], but in much smaller quantities, while others do it as a temporary solution.

Most interviewees deploy machinery produced in Turkey, while four respondents have machinery produced in Georgia. According to them, Georgian production technologies are cheaper but less sophisticated than Turkish and Italian machinery.

As for other inputs, firms that use sophisticated packaging materials like jute bags and vacuum packaging, import them from Turkey, while more primitive sacks are purchased in Georgia from different retailers importing such goods from abroad. However, in some cases they are also directly imported by hazelnut producers.

Most of the enterprises stated that they do not have problems in business relations with the suppliers of raw materials, however, two significant issues, both related to collectors were reported. The first issue is random pricing by collectors[4], who are not informed about the recent market developments, and cause substantial price volatility. The second issue entails attempts by the collectors (and sometimes, farmers) to mix good and bad quality hazelnuts in order to get rid of the bad ones[5]. These are one of the main challenges of hazelnut processing cluster and will be elaborated further in the analysis.

Production Plan

Most of the interviewed enterprises indicated that they plan production process season by season, by closely monitoring both- demand from their prospective clients abroad, and the supply of raw materials within the country. However, most of them state that these plans are informal and not well-documented over the years.

Utilization of capacity

Capacity utilization of hazelnut processing enterprises depends on the quantity and quality of the hazelnut production. The vast majority of the interviewed hazelnut producers do not utilize full capacity of their enterprises. During the period 2016-2019, most of the interviewed enterprises utilized 40%-60% of their full capacity. This is caused by several reasons. Firstly, the problems related to Pharosana and fungal diseases, both of which reduce the quality and quantity of hazelnuts. Secondly, even if the problems related to Pharosana and fungal diseases are resolved, companies will not be able to utilize their full capacity, as far as the governmental programs implemented by ARDA and Enterprise Georgia supported the set-up of a large production and technical base, with much greater capabilities than the hazelnut grown in Georgia so far.

[3] NUTSGE imported cashew and almonds to diversify their assortment, while World Nuts imported walnuts for one year as a substitute to hazelnut

[4] The definition for collectors can be seen in chapter 9

[5] One firm even reported an attempt to mix hazelnut with large amount of soya beans

In case the quantity of hazelnut is sufficient, companies can utilize their full capacity, as they do not have any problems regarding the demand on their products. In 2020, most of the interviewed enterprises expect to increase utilization of their capacity, as they expect the quality of hazelnut to be improved.

Seasonality in production

The processing of hazelnut is characterized by seasonality. Mainly companies work during the August-May period, whereas August-December is a more active period, compared to January-May.

The seasonality of production is mostly caused by the constraints related to the supply side, however, there are also constraints from the demand side. From the supply side, raw materials are limited and mostly, enterprises are not able to buy hazelnuts after the winter season. One of the interviewed enterprises claimed: "Seasonality affects my work, I cannot buy hazelnuts during off-season, even there is demand from abroad".

From the demand side, foreign companies purchasing hazelnuts from Georgian companies mainly prefer to buy hazelnut products during the September-October period. After this period, the buyers have accumulated storage and demand for hazelnut from their side shrinks. However, according to the interviewed companies, they can always find customers, if they are able to purchase raw materials (hazelnuts).

During the off-season period, the interviewed companies mainly deal with repairing, management work and some preparatory works for season, while two of them are fully closed. Besides, some of them have off-season activities: planting and growing blueberries (recently popular activity), as well as running greenhouses of vegetables and so on.

Food and labor safety and waste disposal and recycling

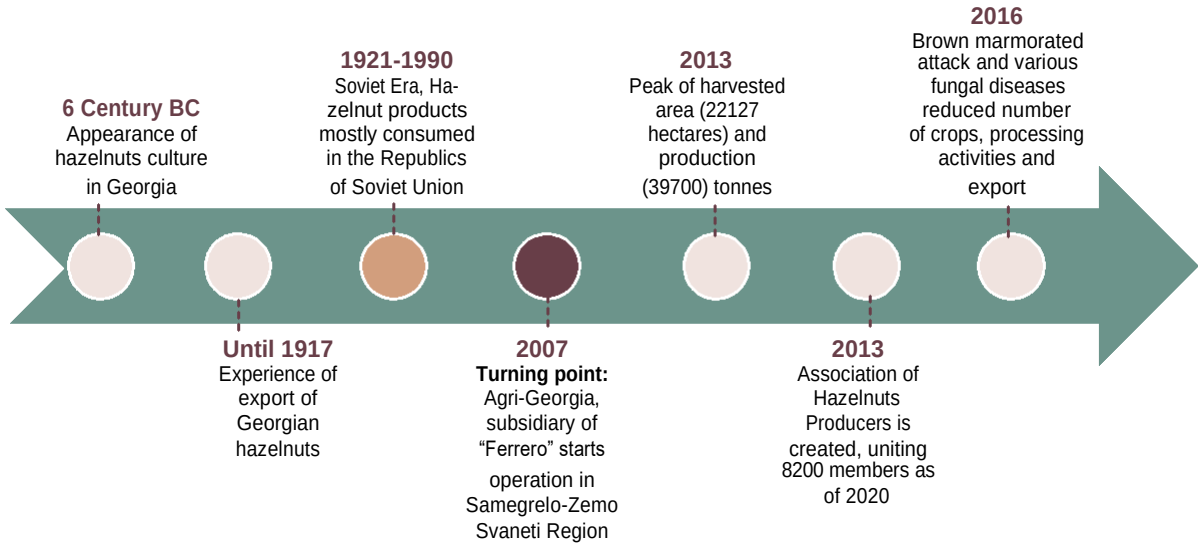
Almost all interviewed companies have implemented food and labor safety systems within production. None of the interviewed companies have implemented recycling, renewable energy and sustainability systems, except one respondent company. This latter uses hazelnut shells as main natural sources for drying raw hazelnuts and the whole machinery is adjusted to such recycling system in the facility without using gas or electricity. However, as reported by most of them, hazelnut shells are sold to the population, also there is a shell processing factory in Zugdidi. Some interviewed companies even give hazelnut shells to its employees as a salary supplement, while others use hazelnut shells for heating the production facility.

6 | HISTORY OF THE CLUSTER

The spread of nuts cultivation in Georgia began in the 6th century BC (Chavleishvili, 2019). Historically, this was an important agricultural product, source of income and employment for Georgia's population and remains so currently. According to ISET (2018), up to 107 000 households are involved in hazelnuts production. Georgia had export tradition until 1917 but since then, in the period of Sovietization the export of nuts stopped. It was re-launched only in the 1990s, when international demand created opportunities for the expansion of the production (Chavleishvili, 2019). As of 2014, around 80-90 % of hazelnuts growers were located in Western Georgia – 50-55% in Samegrelo and 30-35% in Guria (USAID, 2014). Around 90% of the product is exported and the destination of 80% is the EU.

The turning point for Georgia's hazelnut industry development was the launch of operations by AgriGeorgia – subsidiary of Ferrero in 2007[6]. Since then, the company's investments reached EUR 40 million in six years. In the 1st half of 2010s, Georgia was in the list of the world's top five producers of hazelnuts. The area was harvested, and production peaked in 2013 with 22 127 hectares and 39700 tonnes subsequently. In 2013, Georgian Hazelnut Grower Association was established that currently unites 8200 members. Pharosana attack and various fungal diseases have significantly affected the sector since 2016 and reduced the number of crops, processing activities and export. Consequently, the harvest area and production figures dropped dramatically to 9484 hectares and 17000 tonnes in 2018[7].

Scheme 1: History of hazelnuts cluster

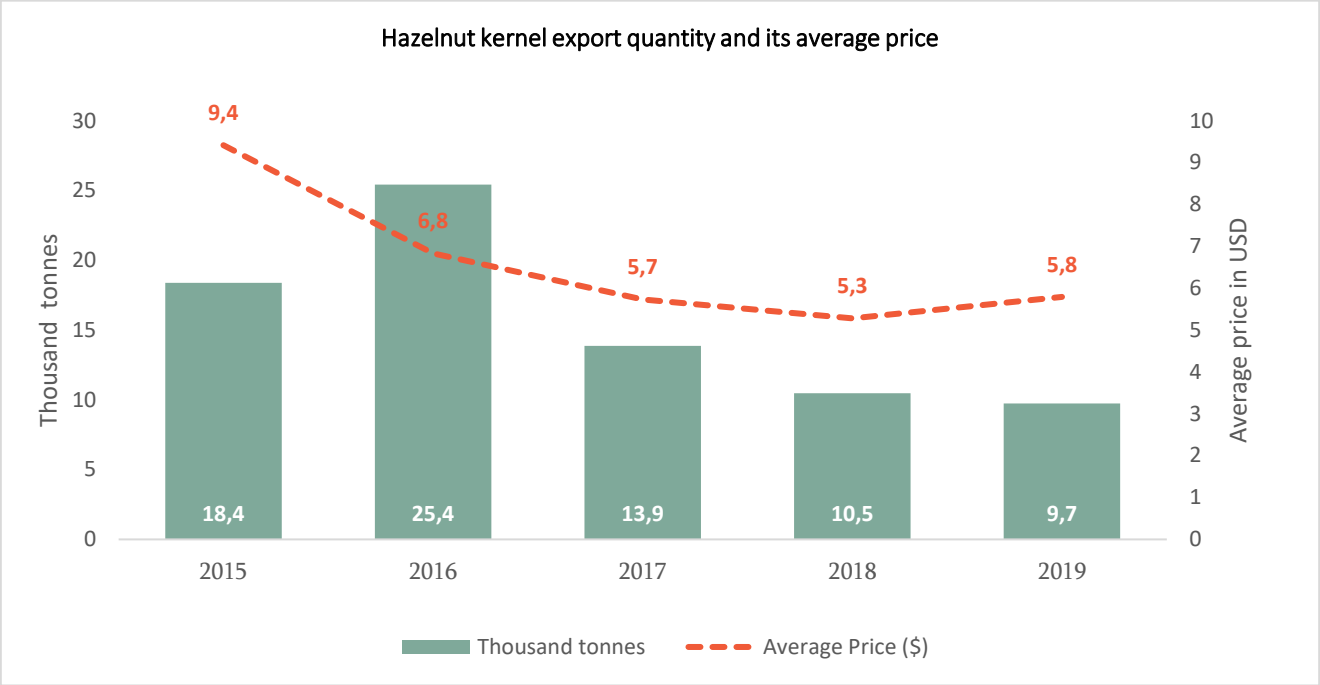


The crisis was reflected in export volumes. The quantity of exports of hazelnut kernel[8] (processed hazelnut) from Georgia has been on a downward trend since 2016, that was the peak year with 25.4 thousand tonnes of export. The export price of Georgian hazelnut decreased from $9.4 per kg of hazelnut kernel in 2015 to $5.8 per kg in 2019. The largest part of this decline happened in 2016 (-27.4% compared to 2015). Both, the fall of the price and quantity could be explained by the problem of

[6] LTD AgriGeorgia operates under NACE rev 2 code 01.25, which implies "Growing of other tree and bush fruits and nuts".
[7] http://www.fao.org/faostat/en/#data/QC/visualize
[8] HS6 code: 080222

Pharosana stink bug in Georgia, which destroyed a huge part of the harvest in 2016, and has remained a problem for the following years.

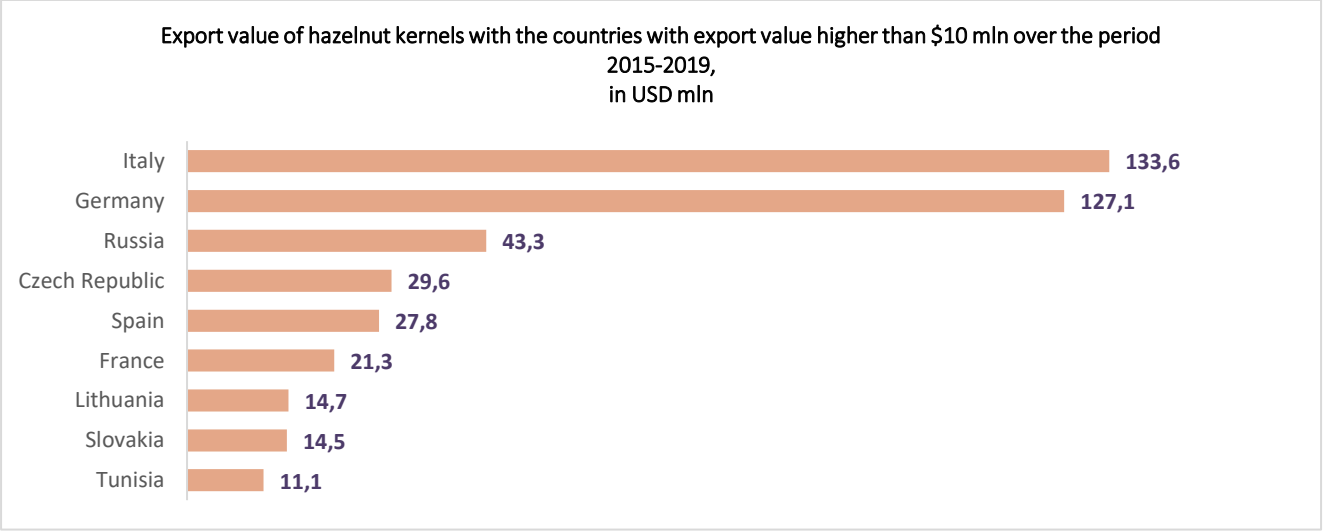
Graph 1: Quantities and average prices of hazelnut kernel exports from Georgia, 2015-2019



Source: External trade portal of National Statistics Office of Georgia

The graph below depicts the main trade partners of Georgia in hazelnut kernel trade over the period of 2015-2019. Overall, even though exports are quite diversified, two prominent partners, Italy and Germany, accounted for 48% of the total trade over the period.

Graph 2: Export value of hazelnut kernels with top countries over the period 2015-2019.



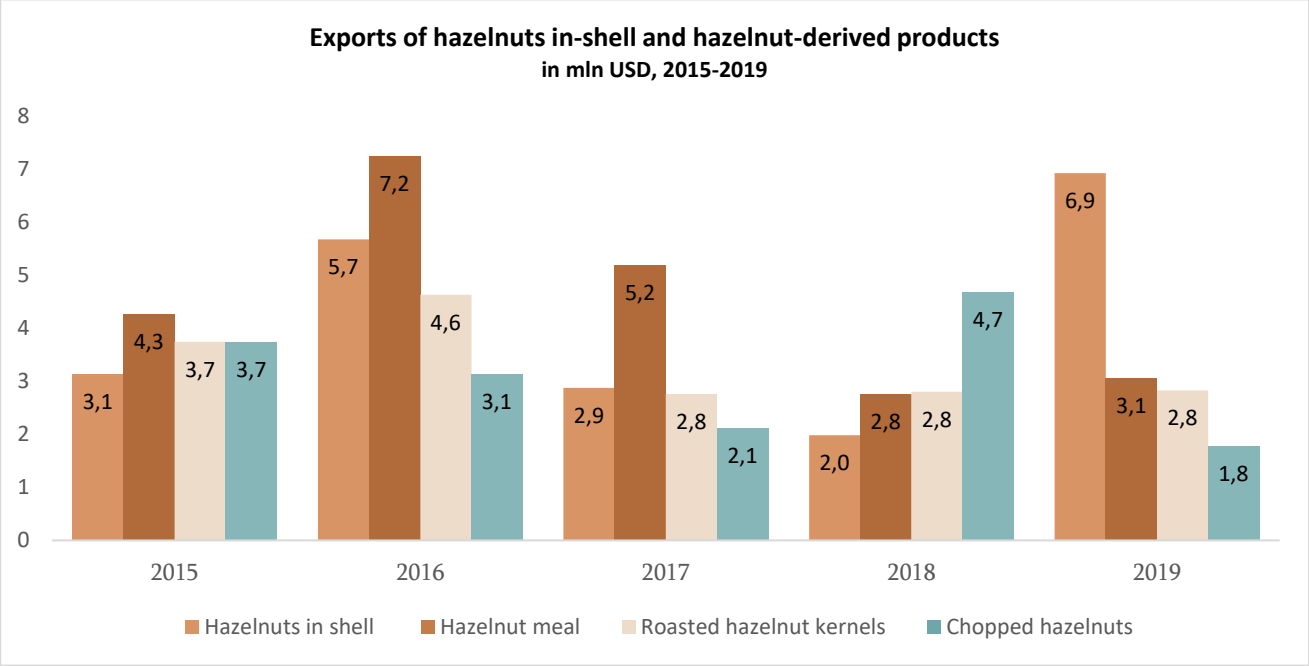
Source: External trade portal of National Statistics Office of Georgia

Hazelnut kernel is the main export product of hazelnut and its derived products. Combined export figures for in-shell hazelnuts, hazelnut meal, roasted hazelnut kernels and chopped hazelnuts[9] amounted to 26% of the hazelnut kernel figure. However, it is worth noting that the corresponding figure was just 9% in 2015, rising gradually to 26% in 2019, indicating on the sophistication of the hazelnut industry over time.

The graph below shows the export value of hazelnuts in shell and 3 derived products from hazelnut kernels over time. The number of in-shell hazelnuts was the highest in 2019, which might be due to the partial alleviation of the problem with Pharosana, while the most hazelnut meal was produced in 2017 when Pharosana crisis was most eminent. This could be explained by the fact that lower quality hazelnuts are more likely to be processed as hazelnut meal. There is no evident trend in any of the main hazelnut-derived products over the time.

In terms of trade partners, Germany dominates the market for hazelnut-derived products. 64% of hazelnut meal in terms of export value was exported to Germany in 2015-2019, while the corresponding figure for roasted hazelnut kernels and chopped hazelnuts were 45% and 55% respectively. Other prominent trade partners include France, Turkey and Czech Republic in hazelnut meal[10] (hazelnut flour) exports, Austria, Italy and Russia in roasted hazelnut kernel exports, and Slovakia and Austria in chopped hazelnut exports. There have been no major shifts in trade partners over time.

Graph 3: Exports of hazelnuts in shell and hazelnut-derived products

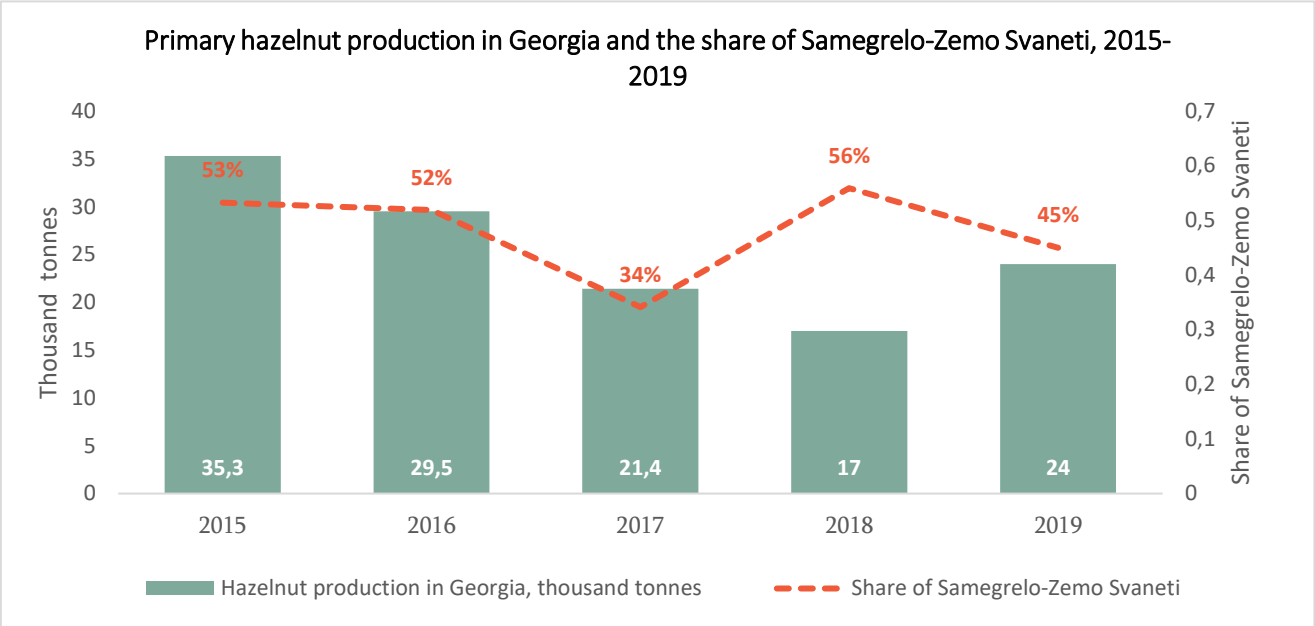


Source: National Statistics Office of Georgia

In terms of hazelnut production, Samegrelo-Zemo Svaneti is a leading region in Georgia, with an average share of the total primary production at 48% for past 5 years[11].

[9] Please note that HS codes for these products are not hazelnut specific, however, products in the code other than hazelnut were negligent.
[10] Hazelnut meal - Ground hazelnuts (0-2mm) mostly made after the roasting process.
[11] The National Statistics Office of Georgia.

Graph 4: Primary hazelnut production in Georgia and the share of Samegrelo-Zemo Svaneti[12]



Source: National Statistics Office of Georgia

Hazelnut processing companies purchase almost 90% of primary hazelnuts, process the product, sort, dry and package hazelnut kernels, and export mainly to the EU market as a raw material.

[12] The graph includes primary hazelnut production and excludes processed hazelnut production.

7 | INTERNATIONAL AND NATIONAL SCENARIO AND FEATURES OF BENCHMARK CLUSTER

Ordu Hazelnut Cluster in Turkey

Turkey is the world's leading producer and exporter of the hazelnuts. The hazelnut industry in Turkey is actively driven by state policy. Between 1964-2008, the government used a price support scheme that caused a rapid expansion of hazelnut plantations in the Eastern and Western Black sea regions of the country, with hazelnut oversupply recorded in some years. According to established practice, Turkish Grain Board stores oversupplied hazelnuts and sells stocks to cracking or processing plants, wholesalers and Integrated Hazelnuts Processing Facility.

In the period of 2001-2008, hazelnut plantations increased from 555 thousand to 709 thousand hectares, while the production in the same period varied between 350 thousand to 801 thousand tonnes. This variance is mostly caused by weather conditions. The yield per hectare fluctuated between 540 kg and 1210 kg in the period, with an average yield at 846 kg. The main factors causing a decrease of the yield in Turkey are climate change, aging hazelnut orchards, lack of cultivation practices and insufficient input use by producers. As of 2017, there were 180 hazelnut cracking plants with an annual capacity of 1.8 million tonnes and 40 hazelnut processing plants with the capacity of 350 thousand tonnes in Turkey. The hazelnut export value at the beginning of 2000s was USD 600 million, increased to 2.8 billion USD in 2015 and stagnated at USD 1.6 billion in 2018. For that period, the share of hazelnut kernel in the exports was 56.7%, processed hazelnut – 16.8%, advanced processed hazelnut- 26.5% and hazelnut shell- 0.04%.

Turkey's hazelnut sector data is presented in the table below:

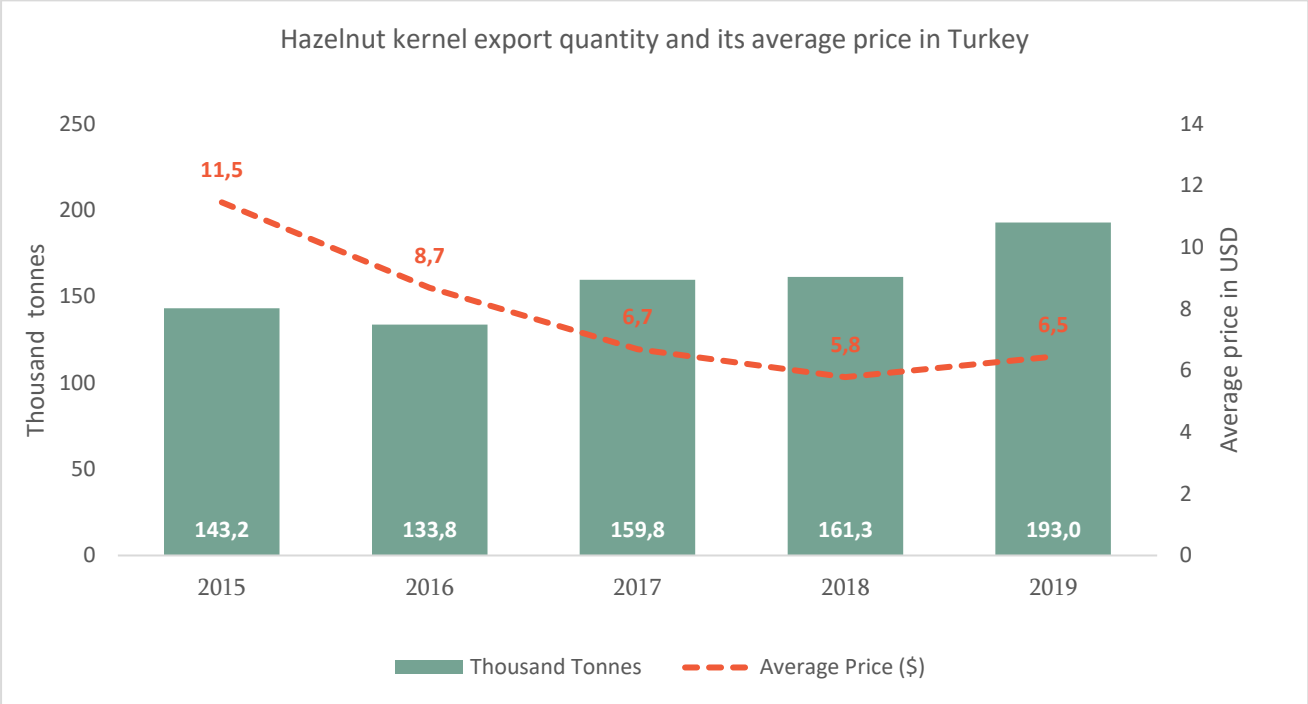
Table 5: Hazelnut sector statistics, Turkey

Year	Area Sown (Ha)	Production (tonne)	Yield (kg/ha)
2002	560,000	600,000	1070
2003	600,000	480,000	800
2011	696,964	430,000	620
2012	701,407	660,000	940
2013	702,144	549,000	780
2014	701,141	450,000	640
2015	702,628	646,000	920
2016	705,445	420,000	600
2017	706,667	675,000	960
2018		515,000	
2019		776,046	

Source: Ministry of Agriculture and Forestry of Turkey (2019)

The quantity of Turkish exports of hazelnut kernel[13] has been relatively stable over the past 5 years, with the higher exports in 2019 which is in line with the higher production of hazelnut in 2019. As for the price, the dynamics of the price has been identical to Georgian export price dynamics over the same period, with the price plunging in 2016 and 2017 and remaining at lower levels for the past 3 years. One notable difference is that on average, Turkish hazelnut kernel is priced by $1.2 more over the period of 2015-2019, which could indicate superior quality or reputation of Turkish hazelnuts.

Graph 5: Hazelnut kernel export quantity and its average price in Turkey



Source: UN Comtrade

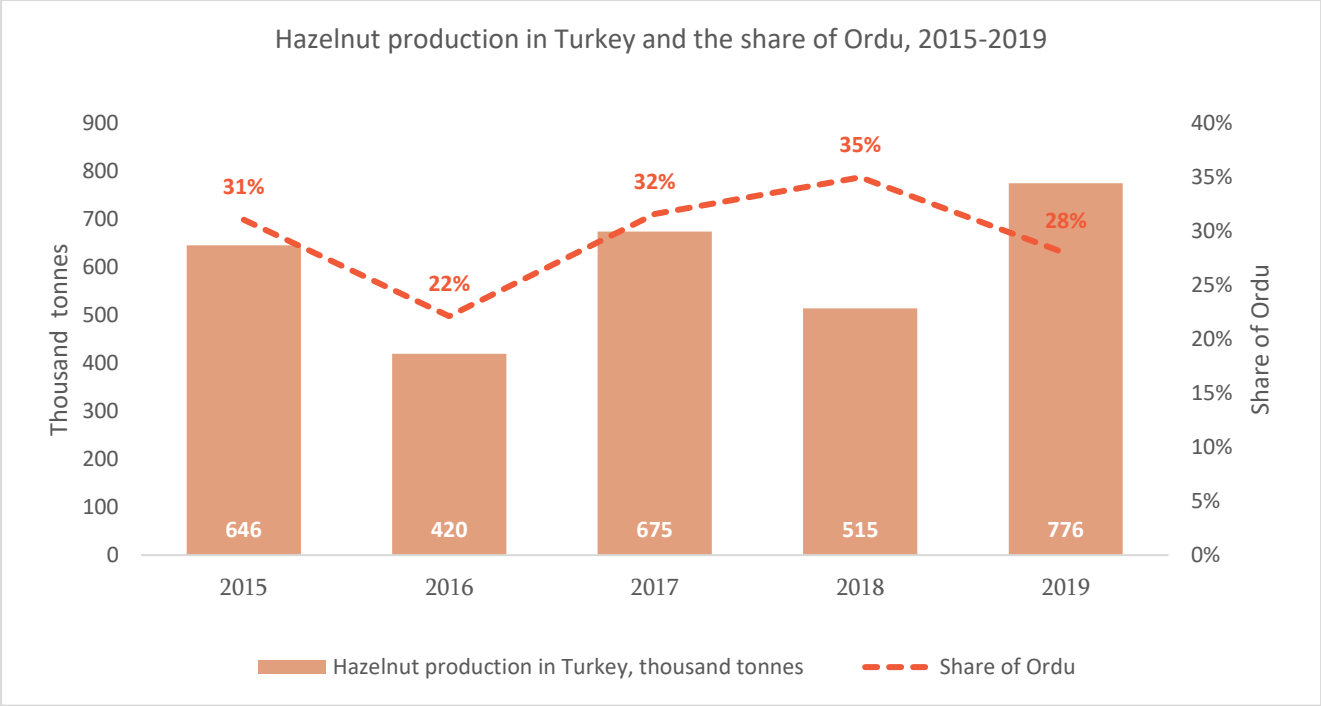
Inside the country, Ordu Region maintains the leadership in terms of hazelnut plantation area, production and export. As of 2014 Ordu's planted area equaled to 230.397 hectares and its share in total country's planted area was 32.3%. Around 80% of economic activity in the region was based on hazelnut industry at that time. Ordu Region is in the 1st standard geographical area[14] of hazelnut production in Turkey and is considered as a most important area of the country's hazelnut industry with lower and fluctuating production, but the superior quality of a product. All districts of the Ordu province are authorized areas for hazelnut cultivation.

In terms of production, Ordu dominated with 22% to 35% share throughout 2015-2019. While both, Samegrelo-Zemo Svaneti and Ordu are leading provinces in terms of production in their respective countries, Samegrelo-Zemo Svaneti's dominance in Georgia is more pronounced than Ordu's dominance in Turkey.

[13] HS code 080222

[14] Turkey hazelnuts industry is divided into 3 standard areas based on the production, productivity and quality of product. The 1st area of Turkey's Black Sea regions represents country's most important production area, the 2nd has younger orchards and the higher productivity in comparison to the 1st area. The 3rd area production has no notable economic value.

Graph 6: Hazelnut production in Turkey and share of Ordu province in total production, 2015-2019



Source: Turkish Statistical Institute

To compare the share of Ordu in total Turkey hazelnut production with the share of Samegrelo-Zemo Svaneti in Georgian hazelnut production, it is observable that hazelnut production in Samegrelo-Zemo Svaneti is more concentrated.

As in the case of Georgia, hazelnut harvest in Turkey takes place in the August-September period, and products are picked by hand. Similar to Georgia, drying of hazelnut is carried out traditionally by using solar energy. This results in defects in quality. However, Turkey has started developing artificial drying systems.

Separating kernels from husks like in Georgia is done by using special machines. That process lasts until October. Hazelnuts in Turkey can be stored in traditional warehouses up to two years.

Turkey, like Georgia exports its hazelnut production mostly in the EU countries (85%) and the largest share goes to Germany.

Ferrero is also the biggest consumer of hazelnut in Turkey, like in Georgia. Ferrero entered the market of Turkey in 2014.

Similar to Georgia, Turkish hazelnut mainly goes on export, and there is a lack of internal demand on local market.

According to the FAO 2019, an average yield of hazelnut during the 2001-2017 period, was higher in the USA (2751kg), Greece (2449 kg), Georgia (1809kg), China (1802 kg), Italy (1599kg) and Azerbaijan (1180 kg) than in Turkey (846kg).

8 | VITAL STATISTICS OF THE HAZELNUT CLUSTER

The chapter summarizes the vital statistics of the hazelnut processing sector by reviewing the dynamics of the main indicators and the number of support institutions.

8.1 DYNAMICS OF THE MAIN INDICATORS

This chapter provides information about the vital statistics of the hazelnut processing sector and reviews the dynamics of the main indicators.

The provided information is based on the desk and field research. Under field research during the in-depth interviews, the target enterprises were asked about the dynamics of some important indicators over of the past 3 years. Provided options included "falling", "increasing" or "no change" for given indicators.

The number of enterprises

The number of companies according to their size and locations are given in table below:

Table 6: Number of enterprises in processing and preserving fruits and vegetables in Samegrelo-Zemo Svaneti by municipality, size, and share of municipalities

Fruit and Vegetable Processing and Preserving					
	Total number	Small	Medium	Large	Share of municipality
Zugdidi	80	75	5		71%
Senaki	11	11			10%
Poti	1	1			1%
Martvili	4	4			4%
Tsalenjikha	8	8			7%
Khobi	1		1		1%
Chkhorotsku	7	7			6%
Total	112	106	6	0	100%

Source: The National Statistics Office of Georgia, Business Register

Estimated employment and turnover

Each interviewed enterprise indicated that there were no significant changes with respect to employment over the past three years, including women's and men's employment. The majority of the employed people in the hazelnut sector are women.

Sales, profits and exports

Out of the interviewed enterprises, 7 reported that their sales had decreased over the past 3 years, all 7 of them attributing the decrease to the problem with Asian bug Pharosana. 3 firms stated that overall, sales were unchanged, while 1 firm reported an increase in their sales. It is worth noting that 2 companies who reported the overall decrease in sales, also stated that in 2019, they had recovered substantially. Profits and exports for the firms had exactly the same dynamics as sales for 9 firms.

Customers

Even in the face of a situation when the amount of sales decreased for most companies, only 1 interviewed firm stated that the number of their customers have decreased. 5 of them reported that there has been no change in the number of customers, while the remaining 5 respondents revealed that they have expanded their net of customers even when sales shrank.

Production capacity

4 enterprises stated that their production capacity had fallen during the past 3 years, and attribute this decrease to the shortage of raw materials (nuts) due to the problem with Pharosana. 6 target firms reported no change in their production capacity, while 1 firm stated that it had increased.

Prices

8 respondents reported no change in prices in one particular direction. Furthermore, three of them stated that prices are volatile and do not follow a trend over time. 2 enterprises state that the prices have increased over the past three years, while just 1 enterprise states that they have fallen during the same period.

Summary of changes in all indicators are presented in the table below:

Table 9: Dynamics of the main indicators

Indicators	Falling	Increasing	No Change
Sales	64%	9%	27%
Profits	55%	9%	36%
Exports	55%	9%	36%
Production Capacity	36%	9%	55%
Number of Products	0%	9%	91%
Prices	9%	18%	72%
Number of Employees	0%	0%	100%
Men Employment	0%	0%	100%
Women Employment	0%	0%	100%

Source: Field Research

8.2 FINANCIAL INDICATORS OF THE SELECTED COMPANIES

Under desk research, financial analysis of a selection of companies was conducted based on audited financial statements retrieved from reportal.ge[15]. Figures for the sample of 17 companies, out of which all fell in the third category,[16] were aggregated and the relevant financial ratios were calculated for the average financial statement.

Out of 17 companies, 8 were profitable in 2018, while 9 registered negative net income. The financial analysis was done for an aggregated data of 17 companies, as well as for profitable and non-profitable companies.

It is worth noting that financial statements and corresponding ratios are calculated only for one year, 2018. Moreover, in 2018, the production of hazelnut was constrained by Pharosana. Thus, one should be extremely cautious about extrapolating the results of the subsequent analysis. Still, it provides an overview of the financial situation in the sector.

Profitability

The aggregate gross profit ratio for 17 companies was 8% in 2018, 8.9% for profitable companies, while for non-profitable companies, it was about twice smaller - 4.9%. All other analyzed profitability ratios were negative for non-profitable firms, while they were in normal range for profitable ones. Return on Equity ratio for profitable (9.9%) and non-profitable firms (-28.1%) had the highest range.

Table 10: Profitability ratios for analyzed firms in 2018

	Aggregate (17 firms)	Profitable firms (8)	Non-profitable firms (9)
Gross Margin	8%	8.9%	4.9%
EBITDA margin	3.6%	5.7%	-2.7%
EBIT margin	2.5%	5.1%	-5.9%
Net profit margin	0.6%	3.8%	-10.1%
Return on Assets (ROA)	0.2%	2.4%	-1.7%
Return on Equity (ROE)	1.6%	9.9%	-28.1%

Source: reportal.ge, own calculations

Asset management

Both, profitable and non-profitable firms have high Cash Conversion Cycle ratios, meaning that the amount of time it takes for them to turn their operations into cash is high. For profitable firms, it was 355 days, while for non-profitable companies it amounted to 1255 days, which is almost three years. This can be partially explained by the nature of the industry, which includes storing hazelnuts for extended periods of time for drying, resulting in high inventory turnover ratio (207 days and 867 days).

[15] Reportal.ge is a public information resource in Georgia containing financial and management reports of companies registered in Georgia. Reportal was created in 2017 by the Service for Accounting, Reporting and Auditing Supervision Subdivision of the Ministry of Finance of Georgia.
[16] Companies that qualify in third category must satisfy at least two of these three criteria: assets < GEL10 mln; revenues <20 mln; annual average employment < 50 people.

In addition, when aggregated, non-profitable firms have negative working capital, meaning that their short-term liabilities are higher than their short-term assets, while most (5 out of 8) of the profitable firms do not face this problem.

Liquidity

The current ratio, which is a ratio of current assets on current liabilities, is adequate[17] for profitable firms (1.16), while it is somewhat worrisome for non-profitable companies (0.75). In addition, there was an increase in the ratio from 2017 to 2018 for profitable firms (1.1 to 1.16), while non-profitable firms saw a decrease (0.89 to 0.75). The quick ratio, which is the current ratio adjusted for inventories, is problematic for profitable companies too (0.72), however, it shows a positive dynamic from 2017 to 2018 (0.58 to 0.72). Non-profitable companies on the other hand, can offset just 21% of their short-term liabilities with their short-term assets excluding inventories in 2018, which is a drop of 26 p.p. from 2017.

When solvency ratios of the firms are analyzed, profitable firms do not have solvency issues, non-profitable firms have negative solvency ratio, meaning that they are at risk of bankruptcy.

Overall, it can be said that while profitable companies are doing somewhat better, non-profitable companies face major liquidity and solvency problems.

Leverage

In terms of leverage, profitable firms do somewhat better, however, they are still not qualified as low-leveraged firms, as their debt/equity ratio is well above 2. Non-profitable firms, however, have abnormally high leverage ratios. They finance almost all of their assets by liabilities, as opposed to debt as their assets to liability ratio is equal to nearly one (0.96), while their debt/equity ratio and equity multiplier ratio are more than 24. A look at 2017 leverage ratios shows a pattern of fast improvement for profitable firms and a pattern of rapid worsening for non-profitable firms in terms of leverage.

Table 11: Leverage ratios for analyzed firms in 2017 and 2018

	Aggregate (17 firms)		Profitable firms (8)		Non-profitable firms (9)	
	2018	2017	2018	2017	2018	2017
Debt Ratio (Assets/Liabilities)	0.84	0.87	0.73	0.79	0.96	0.92
Debt/Equity ratio	5.43	6.5	2.67	3.86	24.33	12.19
Equity Multiplier	6.43	3.67	3.67	4.86	25.33	13.19

Source: reportal.ge, own calculations

Overall, the financial analysis of 17 third category companies revealed that those firms that registered negative net income in 2018 (9 out of 17) on average suffer from problems related to profitability, leverage, liquidity and asset management. What is more, their situation worsened from 2017 to 2018. Those firms that registered positive net income in 2018 on average have positive profitability. However,

[17] A ratio of less than one is considered to be unhealthy, as the firm cannot cover its short-term liabilities with short-term assets completely

they have some room for improvement in terms of liquidity, asset management and leverage. In fact, their performance was improved in 2018 compared to 2017.

8.3 SUPPORT INSTITUTIONS IN SAMEGRELO-ZEMO SVANETI REGION

Support institutions of hazelnut processing companies in Samegrelo-Zemo Svaneti Region comprise of the suppliers of raw materials, suppliers of seeds, fertilizers and pesticides, machinery, transportation, and storage, laboratories, financial institutions, VET Institutions, donor organizations, business associations, and state authorities.

Suppliers of raw materials (primary hazelnut production)

The number of households that cultivate hazelnut in orchards in Georgia was equal to 107 257, and 46 788 (44%) of these households are located in Samegrelo-Zemo Svaneti. In terms of municipalities, Zugdidi is dominating with a share of 36% in Samegrelo-Zemo Svaneti's households with hazelnut orchards.

There are no crop area data available for hazelnut, however, there is data for the number of hazelnut trees. Out of 22 079 000 hazelnut trees in orchards in Georgia, 13 571 000 (61%) are located in Samegrelo-Zemo Svaneti Region. It is also worth noting that 97% trees in fruit orchards in Samegrelo-Zemo Svaneti Region are hazelnut trees.

Table 12: Number of hazelnut trees in orchards (thousand)

	Georgia	Samegrelo-ZemoSvaneti	Zugdidi	Poti	Abasha	Martvili	Mestia	Senaki	Chkho-rotsku	Tsalen-jikha	Khobi
Number of Hazelnut trees in orchard	22 079	13 571	4 865	3	275	3 833	2	725	1 623	1 489	757

Source: National Statistics Office of Georgia, Agricultural Census 2014

Suppliers of Seeds

According to Agricultural and Rural Development Agency's (ARDA) database, as of June 2020, there are 63 nurseries in Georgia, out of these 7 nurseries are in Samegrelo-Zemo Svaneti Region, 1 nursery in Zugdidi and 2 nurseries in Senaki. They deal with hazelnut varieties.

Suppliers of fertilizers and pesticides

According to the Business Register of National Statistics Office of Georgia, as of June 2020, there are no manufacturers of pesticides or fertilizers operating in Samegrelo-Zemo Svaneti. However, there are a handful of firms operating in the trade of fertilizers and pesticides: 9 entities in the region are engaged in wholesale trade and 48 companies in retail trade.

Suppliers of machinery

According to the Business Register of National Statistics Office of Georgia, as of June 2020, there are no manufacturers of agricultural machinery registered in Samegrelo-Zemo Svaneti. However, there are 3 firms operating in the wholesale trade of agricultural machinery (2 in Zugdidi Municipality, 1 in Chkhorotsku Municipality) and 4 firms operating in leasing of agricultural machinery (2 in Zugdidi Municipality, 1 in Tsalenjikha Municipality).

Transportation and storage

According to the Business Register of National Statistics Office of Georgia, as of June 2020, there are 341 companies operating in transportation and storage in Samegrelo Zemo-Svaneti region, 230 of them located in Poti Municipality. 10 companies are engaged in warehousing and storage, 214 in freight transport by road and 117 in other transportation support activities.

Laboratories

The laboratory companies providing services to hazelnut processing sector are Multitest, Laboratory of Agricultural University, Quality Lab. Currently, in the laboratory does not exist in Samegrelo-Zemo Svaneti Region

Financial Institutions

According to the National Bank of Georgia (NBG), as of June 2020, there are 80 commercial banks, 41 microfinance organizations, 37 lending organizations and 18 currency institutions operating in the region.

Vocational Educational Institutions (VET Institutions)

According to the vet.ge, as of June 2020, in Georgia, in total there are 38 public and 54 private VET institutions. Six of them are located in Samegrelo-Zemo Svaneti Region[18]. Only one of them - Shota Meskhia Zugdidi State University, located in Zugdidi, has a program in direction of primary hazelnut production. None of them has programs in direction of hazelnut processing.

Table 13: Public VET Institutions in Samegrelo-Zemo Svaneti Region

	Name	Municipality	Public/Private
1	Lakada	Tsalenjikha	Public
2	Fazisi	Poti	Public
3	Tetnuldi	Mestia	Public
4	Shota Meskhia Zugdidi State University	Zugdidi	Public
5	Tskhum-Egrisi	Zugdidi	Private
6	Zugdidi's Academy	Zugdidi	Private

Source: vet.ge

Donor Organizations

[18] http://vet.ge/en/

The donor programs implemented in Samegrelo-Zemo Svaneti that provide support with fruit and vegetable processing and preserving are given in the table below.

Table 14: Donor programs in Samegrelo-Zemo Svaneti region

Donor	Program	Food and vegetable processing and preserving in Samegrelo-Zemo Svaneti
USAID	Georgia Hazelnut Improvement Project (G-HIP)	Hazelnut sector
USAID	ZRDA Activity[19]	Food processing and preserving
USAID	The Agricultural Program[20]	Food processing and preserving
CARE Austria	Implementing LEADER in Mestia Municipality for better livelihoods in high mountainous regions of Georgia[21]	Food processing and preserving (As the project includes agriculture and manufacturing sector development)
Action Against Hunger and OXFAM	Creation of co-operatives[22]	Food processing and preserving
EU	Eastern Partnership: Ready to Trade - an EU4Business Initiative	Food processing and preserving

Source: Desk Research

Business Associations

There are a number of regional and national associations dealing with the hazelnut sector development in Georgia.

Table 15: Respective associations in Samegrelo-Zemo Svaneti Region and in Georgia

Regional/ National	Association	Mandate
Samegrelo-Zemo Svaneti	Georgian Hazelnut Growers Association[23]	The main goal of the association is to improve the knowledge of farmers in hazelnut orchard management, help them increase their production and improve the quality of hazelnuts.
	Hazelnut Processors and Exporters Association of Georgia (HEPA)[24]	The association unites 38 companies of the hazelnut processing and exporting sector.

[19] http://zrda.georgianeo.ge/index.php/en/
[20] https://www.cnfa.org/program/usaid-agriculture-program/
[21] http://enpard.ge/en/general-stakeholder-care-international/
[22] http://enpard.ge/en/oxfam/
[23] http://www.ghga.ge/
[24] http://hepa.ge/

		HEPA's mission is promote and advocate for hazelnut sector development on local and international level, to boost export capacities worldwide, establish business partnerships with the companies, governmental agencies, donors and financial institutions, attract investments, build capacities of member companies, assist association members in identifying and solving tax, financial and legal issues, adopt new technologies in production, create Georgian standard of hazelnut and etc.
	Samegrelo-Zemo Svaneti regional hub association "Atinati"[25]	Association ATINATI is a regional hub for CSSIGE (Civil Society Sustainability Initiative Georgia) in Samegrelo-Zemo Svaneti. As all hubs CSSIGE, ATINATI's main goal is to support CSSIGE with efficient outreach and sustainability, contribute to the experience sharing and networking on regional and national levels. One of the goals of Atinati is to increase women's entrepreneurship and interaction between government, private sector, and civil society organizations.
Georgia	Georgia Association of Manufacturers	The main goal of the association is to enhance manufacturers' competitiveness in a global marketplace. The association promotes and depends upon a culture of engagement, bringing the intelligence and strengths of its members to meet challenges through the power of its broad and diverse roster of companies.
	Biological Farming Association Elkana	The main goal of the association is to improve the socio-economic conditions of the Georgian population and environmental protection through the fostering the development of sustainable organic farming and increasing self-reliance of the rural population.
	Georgian Farmers Association	The main goal of the association is to strengthen the agricultural sector in Georgia and improve quality of life of Georgian farmers through bringing the farmers together and promoting their visibility.
	Export Development Association	EDA was founded in 2012, aiming to support Georgian enterprises grow and diversify their exports through advocacy, advisory and promotion. EDA unites up to 100 Georgian export-oriented producers and service providers.
	Georgian Employers' Association	The main goal of the association is to create fair and competitive economic policies based on free market principles and free from government interference. Moreover, GEA represents its members as large, medium and small companies working in different sectors of the economy, come out on their behalf

[25] http://atinati.org/?page_id=76

		and promote entrepreneurship in the country to achieve more stability, social-economic development, new jobs and dignified conditions of labor.
	Georgian Small and Medium Enterprises Association	The main goal of the association is to protect the interests of small and medium businesses, promote the creation of healthy competitive conditions in the country, as well as establish active communications between SMEs and public agencies, financial institutions and international organizations.

Source: Desk Research

State authorities

The most important state authorities supporting food and vegetable processing industry are the Ministry of Environment Protection and Agriculture of Georgia[26], Agriculture and Rural Development Agency[27], Information-Consultation Centers[28], Ministry of Economy and Sustainable Development[29] and Enterprise Georgia[30].

[26] https://mepa.gov.ge/En/
[27] arda.gov.ge/
[28] https://mepa.gov.ge/En/Page/RegionalInformationConsultationCenters
[29] http://www.economy.ge/?lang=en
[30] http://enterprisegeorgia.gov.ge/ka

9 | COMPARATIVE VALUE CHAIN ANALYSIS OF REPRESENTATIVE PRODUCTS

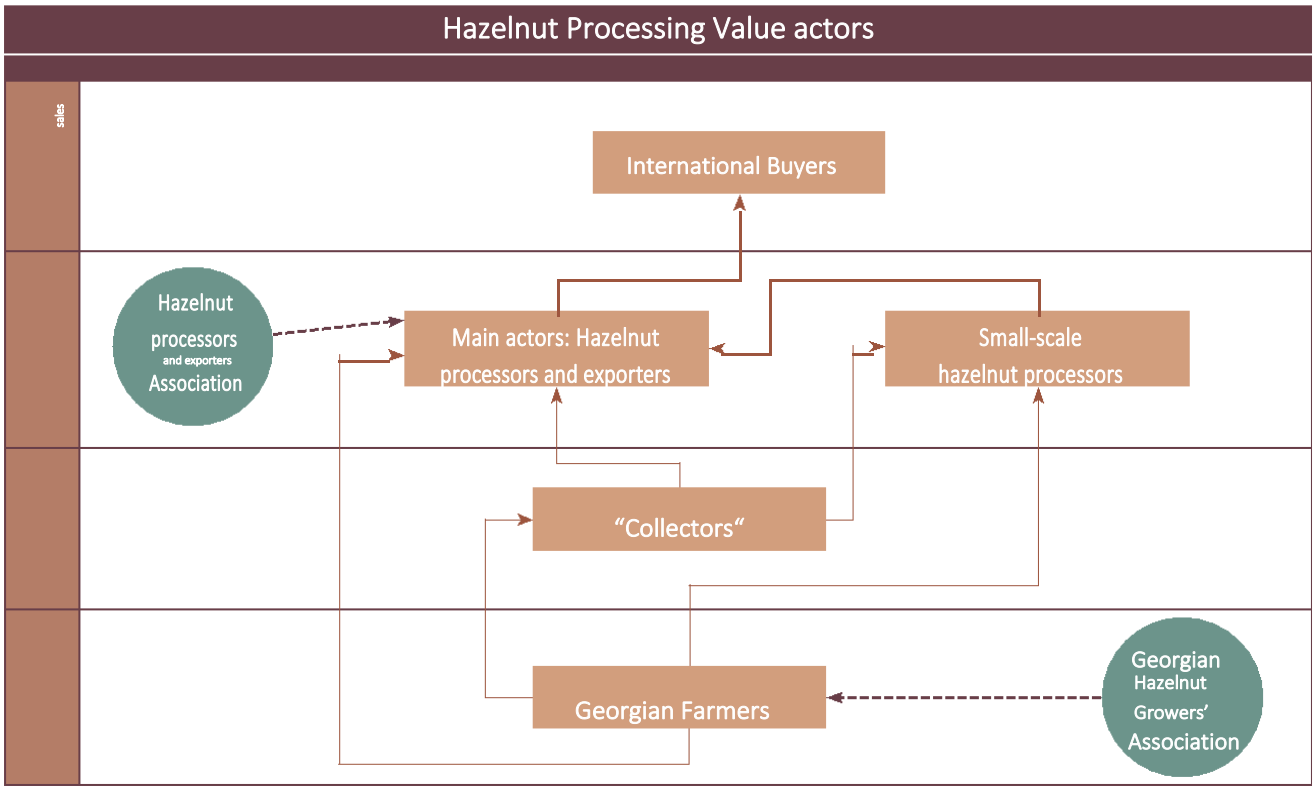
Overview of hazelnut processing value chain

The Hazelnut processing value chain in Samegrelo-Zemo Svaneti consists of various actors. The upstream actors of the chain are Georgian farmers, supplying the main raw material - hazelnuts for other actors. They are actively supported by the Georgian Hazelnut Growers' Association (GHGA), that can be considered as a separate actor of the value chain as well[31]. From the farmers, hazelnuts in shell go to:

1. collectors, who collect hazelnut from various farmers and sell them to processors in bigger bulks. Mostly these individuals operate by having signs "collecting hazelnuts" on the streets and are not registered as individual enterprises. It is most common for farmers to sell their product to this group of the value chain.
2. Small-scale hazelnut processors, using machinery to dry and crack hazelnuts.
3. Hazelnut processors and exporters, processing hazelnuts and exporting it to international buyers.

The collectors sell hazelnuts in shell to small-scale processors, or directly to processors and exporters, while small-scale processors sell hazelnut kernels to processors and exporters. Processors and exporters either export hazelnut kernel or engage in further processing and export more sophisticated products.

Diagram 1: Hazelnut processing value chain in Samegrelo-Zemo Svaneti

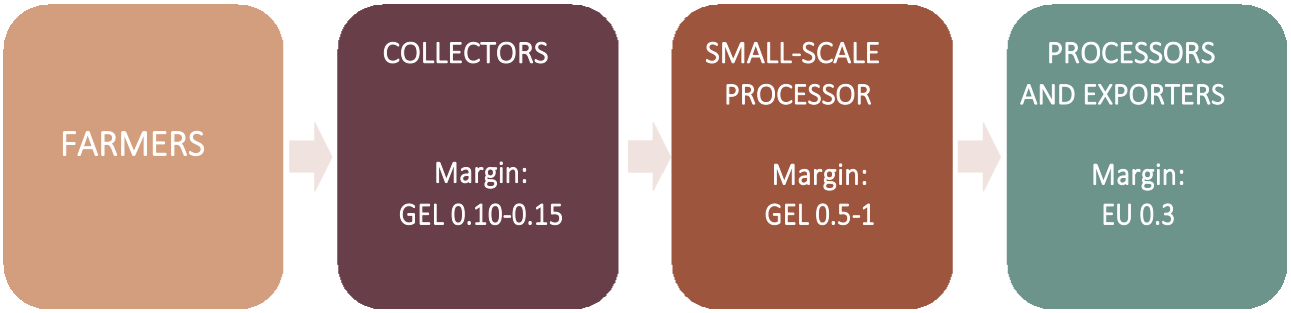


[31] This part will be elaborated later in the analysis

According to HEPA, the price addition process along the value chain can be described approximately as follows[32]:

- Collectors add at least GEL0.1 GEL per kg of in-shell hazelnuts (GEL0.15 at most)
- Small-scale processors add at least GEL0.5 per kg of hazelnut kernels (GEL1 at most)
- Processors and exporters add at least EU0.3 per kg of hazelnut kernel (about GEL1). The margin goes up with higher product sophistication.

Diagram 2: Price addition process along the value chain



In addition, since 2018, drying and storage facilities, with an approximate overall capacity of 300-400 tonnes were built by GHGA with funding of the Georgian Hazelnut Improvement Project (G-HIP) and AgriGeorgia. This is another option for farmers to store and sell their product. Thus, these facilities, operated by GHGA, have been integrated in the value chain and are likely to expand more in the future[33].

[32] Please note that price additions described below represent approximate operating margins for each of the actor, in absolute terms
[33] This part will be elaborated later in the analysis

10 | NATURE OF COOPERATION IN THE CLUSTER

10.1 CLUSTER CONNECTION

CONNECTION BETWEEN SUPPORT INSTITUTIONS AND PRINCIPAL FIRMS

VET Institution - Shota Meskhia Zugdidi State University

In Samegrelo-Zemo Svaneti, there is only one public VET institution - Shota Meskhia Zugdidi State University providing courses relevant for hazelnut sector, located in Zugdidi. However, this course is only for primary production, not for processing. Currently, VET institution does not provide any services for hazelnut processing companies.

According to the representative of VET institution, there is no demand from private sector for their courses. The current program on hazelnut primary production will end during this year, and the institution is not going to continue providing this course, due to insufficient demand.

VET institution only considers adding the program on hazelnut processing if the demand from the private sector exists. Currently, VET does not conduct any popularization campaigns in this regard.

Therefore, at present moment, there is no connection between the private sector representatives of the hazelnut processing sector and VET institution.

Agricultural and Rural Development Agency (ARDA)

Agricultural and Rural Development Agency (ARDA) operates under the Ministry of Environment and Agriculture of Georgia. Its key functions include planning and management of projects initiated by the Ministry of Environment and Agriculture.

Currently, ARDA does not have any specific program only for hazelnut producers, however, some of its programs among other products include hazelnut processing. The programs where hazelnut processing enterprises in Samegrelo-Zemo Svaneti participated for 2015-2020 years are given in the table below:

Table 16: The number of projects financed in Samegrelo-Zemo Svaneti during 2015-2020

	Preferential Agrocredit Project	The program supporting young Entrepreneurs	Co-financing Agro Processing and storage enterprises
Number of projects financed	62	1	5
Zugdidi	25	0	5
Abasha	0	0	0
Martvili	10	0	0
Senaki	6	0	0
Poti	2	0	0
Chkhorotskhu	13	0	0
Tsalenjikha	6	0	2
Khobi	2	1	0

Source: ARDA

The representatives of the hazelnut processing sector have cooperation with ARDA and participate in agency's projects.

Donor – USAID_G-HIP

In 2016, USAID initiated a five-year Global Development Alliance (GDA) with the multinational confectionery company Ferrero (AgriGeorgia) to improve the productivity of Georgia's hazelnut industry. Georgian Hazelnut Improvement Project (G-HIP), which is implemented by CNFA (Cultivating New Frontiers in Agriculture), improves hazelnut productivity, and facilitates market linkages, thereby increases the competitiveness of the hazelnut sector. Interventions are aimed to strengthen two industry organizations (Georgian Hazelnut Growers' Association [GHGA]) and the Hazelnut Exporters' and Processors' Association [HEPA]); provide innovative approaches for improving the quality of production and food safety practices throughout the hazelnut value chain.

The main activities provided under the project include training programs for farmers and students, co-funding of innovative drying and storage facilities for hazelnuts as well as various activities to support general development of the industry.

Training programs mainly include primary production and are mostly targeted at farmers. The trainings are conducted by consultants at GHGA and it is one of the main fields of work for the association.

Students from universities who seek a career in agronomy take the trainings each year and have hands-on experience in AgriGeorgia's plantations. The groups usually consist of 20-25 people and include students from Tbilisi (Agrarian University), Kutaisi, Batumi and Zugdidi (Shota Meskhia University). Even though these students do not specialize in hazelnut cultivation exclusively, most of them continue to work in this direction. 2 of the graduates of the training program are currently employed at AgriGeorgia as agronomists.

The G-HIP project has the major contributions, along with GHGA and AgriGeorgia, in creation and development of drying and storage facilities for hazelnuts. These facilities are operated by GHGA, and according to them, they are imperative to solve the problem of the low and inconsistent quality of hazelnuts. The facility allows farmers to dry and store their products in a professional manner with all necessary procedures. In addition, it solves the problem of tracking each batch of hazelnuts by assigning them to individual farmers, which makes it possible to track the origin of a low-quality product even after it is exported.

An interview with a farmer revealed that these facilities deliver the promised services at appropriate prices[34]. They provide comfort, as opposed to traditional ways of drying and storing the food (under the sun at home) and knowledge about their product, such as humidity on a daily basis. Also, the storage option of the facility allows farmers to wait until the price of the hazelnuts is acceptable for them and sell them afterwards.

Despite its contribution to the sector, the G-HIP project does not have direct linkages to the target enterprises and conducts its main activities through two producers' associations - GHGA and HEPA.

Georgian Hazelnut Growers' Association (GHGA)

Georgian Hazelnut Growers' Association was established in 2013, but has become much more relevant since 2016, after G-HIP's interventions in their activities. GHGA organizes training sessions for farmers, provides services in drying and storage facilities. More generally, assist hazelnut farmers in cultivation and harvesting process.

The association unites hazelnut producing farmers who operate on 30 000 hectares of agricultural land. The farmers are divided in groups of 10-12 people for maximum efficiency and each group is assisted by the GHGA's consultants. The farmers are provided with special notebook, where they note each procedure during the cultivation process, which helps both farmers and the GHGA to track how hazelnut is cultivated. The association is engaged from the beginning of spraying process until the end of harvesting; it actively encouraging farmers to cultivate their orchards in a proper manner. In this regard, the GHGA's efforts are recognized not only by farmers, but also by hazelnut processors. Most of them state that approximately three years ago, the farmers were not taking care of their orchards at all and the overall mentality about hazelnut was that it was easy and not laborious to harvest them. This preconception has shifted after the GHGA started working with the farmers. Following their efforts made against Pharosana, combined with the efforts of ARDA, it proved to be effective. Nowadays, most value chain actors think that farmers realize the value of looking after their orchards, and attribute much of this to the GHGA's work.

Apart from trainings from farmers, the GHGA is actively engaged in above-mentioned training process in AgriGeorgia's plantations.

Another important activity in which the GHGA is engaged is building and operating the drying and storage facilities funded by G-HIP and AgriGeorgia. The representatives of the GHGA emphasized the importance of these facilities in development of the high-quality hazelnut production in Georgia. Moreover, they underscored that the supply for these facilities in Georgia is still low (3 in Samegrelo-

[34] Please note that the interviewed farmer was recommended by GHGA

Zemo Svaneti and 3 in Kakheti) and that about 50 of them are needed to fully satisfy Georgian demand. According to the GHGA, the construction of 50 facilities would fully eradicate the need of middlemen in the value chain, nowadays acting as collectors, which would contribute to more stable and accurate prices.

The main challenge identified by the GHGA, apart from issues with quality, on which they are actively working, was the lack of appropriate machinery for hazelnut orchards. The problem is that once orchards are grown, it is impossible for conventional tractors to enter the orchards for various procedures (e.g. spraying) without damaging the orchard. Thus, hazelnut orchards need special, smaller tractors, which are not widely available and also are not included in tractor park of state firm Mechanisator.

The association is funded by G-HIP project and they do not have a membership fee for the farmers. In order to support their activities, they offer business consulting services to potential investors who plan developing hazelnut orchards and so far, have had 10 such clients. In addition, association is working to get additional grant support from donors or partners.

Despite acknowledging their contributions towards better culture of hazelnut production, most of the interviewed exporters are wary of the GHGA and their engagement in the value chain. Some exporters see the establishment of drying and storage facilities as a combined attempt of AgriGeorgia and the GHGA to monopolize the middle part of the value-chain, making the collectors job obsolete. Moreover, trust towards the association is low among some core enterprises. They feel like they are left out from the overall development of the drying and storage facilities on purpose. They claim that they would not be allowed to utilize these facilities, as there is a privileged group (mostly, AgriGeorgia and some specific exporters) of enterprises that are allowed to benefit from the GHGA's activities.

The GHGA is mainly linked with hazelnut farmers, providing services for cultivating hazelnuts in higher quality and quantity. In addition, the GHGA is linked with target enterprises as it operates drying and storage facilities.

Hazelnut Processors & Exporters Association (HEPA)

Hazelnut Processors and Exporters Association of Georgia is a producers' association consisting of 35 exporter enterprises, mostly the biggest ones. As the association unites competitors, their main goal is to identify mutual objectives and problems, and to support in implementing them, as well as engage in advocacy work.

The association is engaged in spreading new information about market developments, innovative machinery for processing and packaging, the latest statistical information, demand and supply of the product, using International Nut and Dried Fruit Council (INC) as a main source of information. Consequently, the HEPA has been cited by most interviewed members as one of the main sources of information. Support to product marketing is constrained to providing necessary market information.

In terms of access to finance, the HEPA also acts as an intermediary between banks and members, by providing information about new bank products and services to them, as well as providing recommendations to specific companies when applying for loans.

In addition, the HEPA also provides support with certification process of the member enterprises (HACCP and ISO). It also conducts individual meetings with farmers, encouraging them to cooperate with enterprises directly.

In terms of policy advocacy, the HEPA is engaged in communication and negotiations with National Food Agency (NFA) on various bureaucracy issues and with Customs Department of Revenue Service, on various problems and procedures at the border.

The most notable contribution of the HEPA to its members so far is its successful efforts to exempt hazelnut processing (cracking and producing hazelnut kernels) from VAT tax, which was recognized by a number of the interviewed enterprises as a positive change for the industry.

The association is mainly funded by G-HIP project and EU4Business program, combined with annual membership fee of GEL 100.

In the near future, the HEPA is going to undergo a process of organizational reform, under EU4Business program. A 5-year development plan has been elaborated and the HEPA will launch it to measure its work effectiveness. As part of the process, it plans to expand towards smaller processors and divide its members between hazelnut exporters and just processors. It also aims to provide more tailored services to each group.

Some additional activities planned in the future include conducting trainings on the financial literacy for the members and initiating production of charcoal from leftover cracked shells.

The main challenges for the enterprises identified by the HEPA include:

- Problems during transportation: when crossing the border of the EU, the hazelnuts get tested for aflatoxin. In Bulgaria, the sacks get damaged causing the hazelnuts to spill. The cost of the aflatoxin test is €250 in Poland and €700 in Bulgaria.
- Lack of information on market attributes and developments: while this is not a problem for the members of the association, other enterprises lack the information.
- Working capital problems: extended period of crisis for the industry due to Pharosana caused the firms to have less than adequate working capital.
- Lack of qualified technicians for the machinery
- Lack of qualified accountants
- Lack of advanced technologies, like laser machines for sorting the hazelnuts
- No laboratories existing in targeted region, causing delays in performing tests on hazelnuts, thus hampering production and planning procedures.
- Bureaucracy problems regarding export procedures.

According to the interview results with core enterprises, most of the respondents are not much involved in the activities of the association. One of the enterprises mentioned: “I cannot say that I have got something beneficial from the membership of the association. I am a member of it since it was founded”.

The HEPA has established the most prominent linkages with the target enterprises among the support institutions, however, its multifaceted services are restricted to members only.

Laboratory - Multitest

Laboratory Multitest was founded in 2004 and provides testing services for various cultures, including hazelnuts. Company employs 23 people.

The most demanded tests on hazelnut are the following (tests are given in chronological order):

1. Alflatoxin
2. FFA – Free Fatty Acid level
3. Moisture content
4. Peroxide value
5. Heavy metal level

During January-July 2020, there has been demand only from 17 hazelnut companies, out of which 64 tests have been made on hazelnut kernels and 10 tests on hazelnut paste.

The maximum duration for Aflatoxin and FFA tests is 3 days (hazelnut respondents said it is up to 5 days). Reasons for delayed test results are the following:

1. Multitest owns only 1 Chromatograph – necessary lab instrument/equipment for testing (for instance, Aflatoxin content in Hazelnut). But this instrument is also used for many other fruit and vegetable products. Therefore, the problem is a queue of tests to be made using Chromatograph, that prolongs the process. On the other hand, the real test duration is up to 1.5-2 hours.
2. Preparation process – is the most time consuming: cracking hazelnut, blanching, milling (if necessary), preparing filters for chromatograph, for making test.
3. Rechecking results – laboratory rechecks the result 4 times (Each test 20 min, 20x4=180 min).
4. Overall test duration is 2-3 hours, meaning it can do up to 5 tests per day.

Challenges identified by the representative of the laboratory are the following:

1. Unregulated lab market - both the state and private laboratories set low prices on lab tests, that destroy the market. According to the respondent, the prices are so low for most of the lab tests, that there is a serious doubt whether they actually do the testing, or just put the result figures manually. Unregulated and unmonitored market hinders Multitest and other few 'honest' laboratories to develop.
2. Nonexistence of regional offices - although not yet implemented, the laboratory has elaborated a project, aim of which is to have a regional branch of Multitest for wine producers in Kakheti region. Such project can be developed for hazelnuts as well, to have a regional representation dedicated only to the hazelnut industry. As the respondent claimed, estimated cost of such compact laboratory is 200K Euros.

Currently, there is an active communication between firms and laboratory Multitest. However, the companies are not satisfied, as time Multitest needs for analysis is not suitable for them.

10.1 LINKS BETWEEN PRINCIPAL FIRMS

Competition and competitors

The competition between interviewed enterprises mainly exists during the process of purchasing raw materials. After that, they do not represent competitors for each other having their own trade partners.

The collectors represent one of the main competitors for hazelnut processing companies. During the harvesting period, the collectors are standing in the streets almost everywhere, with banners "I am purchasing hazelnut". They mix good and bad quality hazelnuts with each other and sell them to large enterprises at high prices.

One of the enterprises mentioned that foreign enterprises located in Georgia are the main competitors for Georgian enterprises, as foreigners are financially stable, while all Georgian companies have bank loans. This gives the possibility to the foreign companies to purchase raw materials at higher prices. Most of the respondents accused such big companies (like Olam Georgia, Anka Fair Trade etc.) of contributing to market price volatility. These companies initially charge high prices for raw materials, so suppliers/collectors sell their products to them in the first place. This causes chaos between competitors. According to the respondents, this is one of the reasons, why Olam Georgia is leaving the country - their strategy did not work here, however, Olam Georgia also has management related problems in Georgia – as was reported by most of the interviewed respondents.

Some of the interviewed medium and large companies regard small processing companies as being their competitors, as far as mainly small entities purchase hazelnuts from farmers and then sell the product to larger ones at higher prices.

Links between enterprises and potential for collaborative action

Based on the conducted research, the links between hazelnut processing enterprises are not strong. Enterprises do not collaborate to jointly set the prices, considering it to be impossible. As one of the enterprises stated, if they do, there will be at least one company that breaks the agreement. Enterprises also do not cooperate to sell or transport the products together. The main factor is nonexistence of trust, lack of confidence towards the quality of partner's product, that can result in losing the existing and potential buyers. According to the respondents, they mainly collaborate to exchange information using WhatsApp group.

Although companies prefer not to work together and develop joint initiatives, they always try to help each other. Frequently, there are the cases when some companies require additional raw materials (hazelnut or packaging materials) or working force. In this case, companies are always ready to support their competitors.

While asking if they recommend hazelnut enterprises in close proximity to a client in case of insufficient production, the majority mentioned they do so, however, some of them mentioned they do not think others will behave so. One respondent mentioned they do not know the answer, while another company stated that if there is a demand from a client and the company does not have sufficient production, they will buy hazelnuts from other local companies and sell to its client.

All respondents stated they are ready to collaborate with each other mainly in the direction of policy advocacy and joint negotiations. Also, companies think, they can cooperate in buying raw materials together, in making drying facility, to hire specialist or be certified together.

Joint sales and exporting together were the least mentioned collaborative actions. There is a lack of trust, especially after the case happened in 2015 when some of the companies mixed hazelnut with peanut. Lack of trust is also caused by the existing problems related to Pharosana, that increases the risk of insufficient quality. One respondent stated that companies can collaborate in creating the centralized platform, uniting all relevant information for them.

10.1 COOPERATION MATRIX

A co-operation matrix ranks the current status of linkage between the core firms and support institutions. In cooperation matrix 0 means no cooperation, while 5 means strong cooperation.

Table 17: Cooperation matrix

Cooperation Matrix										
Name	Core firms	ARDA	VET	USAID	GHGA	HEPA	Multitest	Financial Institutions	Suppliers of raw materials	Total
Core firms	X	3	0	1	2	4	4	3	3	20
ARDA	3	X	1	3	1	1	0	4	3	16
VET	0	1	X	0	0	0	0	0	2	3
USAID	1	3	0	X	5	4	0	0	2	15
GHGA	2	1	0	5	X	3	0	4	5	20
HEPA	4	1	0	4	3	X	1	4	1	18
Multitest	4	0	0	0	0	1	X	1	0	6
Financial Institutions	3	4	0	0	4	4	1	X	1	17
Suppliers of raw materials	3	3	2	2	5	1	0	1	X	17
Total	20	16	3	15	20	18	6	17	17	X

According to the cooperation matrix, the associations GHGA and HEPA have the strongest linkages with stakeholders of the hazelnut processing cluster, while VET college has the least linkages with stakeholders. USAID also has strong linkages with stakeholders, as it works with the GHGA and HEPA, two major associations in the hazelnut sector of Samegrelo-Zemo Svaneti. Financial institutions also rank high in the matrix, as they provide financial support to the core firms and suppliers of raw materials, spreading information through the GHGA and HEPA.

11 | ANALYSIS OF BUSINESS OPERATION AND CLUSTER ANALYSIS

11.1 TECHNOLOGY

International standards, certification

In almost all interviewed companies, the production processes are implemented in compliance with the international standards. These international standards include mostly HACCP, ISO, IFS, FSCC, BRC.

Cooperation with laboratories

Almost all medium sized[35] interviewed companies cooperate with laboratories, while small ones in general do not. Mostly companies collaborate with laboratories if they export hazelnut. The companies cooperate with the following laboratories located in Tbilisi: Multitest, Laboratory of Agricultural University, Quality Lab.

Nonexistence of the laboratory in Samegrelo-Zemo Svaneti is one of the challenges companies underline. Some of the analysis require 20 minutes, while companies have to wait for several days (5-6 days) to obtain an answer from Tbilisi.

Companies need to conduct some analysis during the working process. One of the respondents claimed: "We have to start processing a small amount of hazelnut, for example 1 tonne, afterwards we need to conduct the analysis of this 1 tonne to decide whether to continue the production process. However, as the answer needs 5 or more days, we continue processing hoping that everything will be fine".

There was an initiative of Hazelnut Processors and Exporters Association of Georgia (HEPA) to open a laboratory in Zugdidi with the support of USAID. The aim was to enable enterprises to check quality of hazelnut during the working process (the most demanding laboratory tests are defining: Aflatoxin, and acidity level in hazelnuts). The association planned the laboratory to be small, not equipped with all essential techniques, however, USAID intended the laboratory to be accredited. Due to this fact project cost was very high and the idea was rejected. At the moment, AgriGeorgia is building the laboratory in Zugdidi, to be completed by the start of harvesting season in 2021. The laboratory will be accessible to other actors of the value chain as well.

Adequacy of current technology

- Equipment

The majority of the respondents think the existing production technology is adequate to support business growth. Mostly they characterize equipment to be modern and in good condition.

[35] Medium sized according to the Geostat methodology

In general, the equipment deployed by companies are imported from Turkey, as in Georgia equipment for hazelnut enterprises are not fully available. Recently production of the equipment like hazelnut crushing machine, dryer, machine for hazelnut calibration have been launched in Georgia.

Four interviewed respondents used the equipment produced in Georgia. One of them stated: "The equipment we use, like hazelnut crushing machine, dryer, machine for hazelnut calibration, all of them are produced in Georgia. The equipment here is much cheaper, it does the same work. In addition, technical support is also available."

All of the interviewed companies experienced breakdowns during production processes. Depending on the scale of such failures, they are fixed either by company's specialized staff, or they apply to technicians. According to them there are a lot of technicians in Samegrelo-Zemo Svaneti. Half of the respondents have technicians themselves, while another half is outsourcing this service.

Some of the breakdowns associated with companies using the equipment produced in Turkey, require Turkish technicians, as in Georgia such knowledge does not exist. For example, if there are any problems with hazelnuts roasting machine, it is difficult for companies to find someone who knows how to fix equipment. However, according to the companies the situation is improving in this regard, and the knowledge of Georgian technicians is increasing year by year.

According to the interviewed companies, to increase the efficiency and profitability, most of them require additional equipment like vacuum packaging, a machine to detect rotten, moldy and color defects with the highest efficiency, laser machine for cracking hazelnuts, automatic packaging line and nuts roasting machine.

One of the respondents claim: "To have access to high-paying consumers who give special attention to food safety and pay a high price in case of appropriate quality, we need laser machine. Top hazelnut consumers are asking for this machine."

The main source to have access to information relating to new technologies for hazelnut producers is the internet. Moreover, some of them get this information through international exhibitions, from their partners, and from HEPA.

- Access to technology specialist

Almost all interviewed respondents employ production technology specialist who is responsible for the quality of the final product and takes participation in every part of production process starting from purchasing the raw material ending with processing of final good. For all respondents, this kind of specialist is inhouse staff. Companies in general prefer to have their own specialist who have access to information regarding quality.

11.2 INNOVATION AND R&D

Sources of information about innovative developments in the field

For the interviewed enterprises, the main source to get information about innovations are their trade partners in the EU, partners from Turkey, international exhibitions and the internet. Some of them mentioned HEPA, EDA (Export Development Association) and ARDA.

The most recent product, process, marketing, management and other innovations adopted by almost all interviewed companies are mainly associated with implementation of international standards, like ISO, BRC, FSS, etc. Moreover, three companies mentioned purchasing of new equipment like hazelnut roasting machine and laser machine.

One company mentioned the adoption of new product like chopped hazelnut and hazelnut meal. Moreover, one of the companies also mentioned that in recent years, they started exporting to a new market - Uruguay, where, according to them, Georgian hazelnut have not yet penetrated.

One respondent claimed the company plans to open a small chocolate factory, also to bake bread with hazelnuts and to produce hazelnut oil.

Organic production

According to the majority of the respondents, there is a demand on organic hazelnut production from their trade partners, and price of organic hazelnut is much higher. However, in Samegrelo-Zemo Svaneti, hardly any farmer produces certified organic hazelnuts. Even if companies decide to produce organic hazelnut, they will not be able to buy organic raw materials.

Moreover, due to the existing problems caused by Pharosana, it is very challenging to produce hazelnut in organic way, as chemicals are needed to fight against insect.

One of the interviewed companies does not have information what organic production means. Moreover, two companies do not have information if there is any demand for organic hazelnut.

Organic certification process inspects every single process of production (starting from examining the soil where the hazelnuts are grown, all the way to the final products). Therefore, such certification is affiliated only to those producers being able to trace every single process of hazelnut to its origin – the orchard, plant and soil.

Still, there has been a precedent of production and export of organic hazelnuts in Europe. According to Caucascert[36] export data, 14.7 tonnes of hazelnut kernels were exported to Germany in 2017 by Anka Fair Trade, which holds 2 organic certificates from Caucascert (2017 and 2019) and promotes development of organic hazelnut value chain.

11.3 MARKETING AND SALES

Main markets and sales channels

Smaller processing firms that do not have exports, sell hazelnut kernels to bigger processing and exporter firms. Thus, after moving between various actors in the value chain, the final destination of hazelnuts is foreign markets, and for the most part, they are being marketed as a wholesale product to

[36] Caucascert is the first local organic certification company in Georgia

other businesses in target markets. Each interviewed exporter firm stated that they export 81-100% of their product. The main target market for most exporters are the EU countries, mainly Italy, Spain, Germany, France, and Poland, while some of them focus on Russia. In addition, China and South America also feature for some enterprises. Many of the firms plan to expand their presence in already established target markets, while some of them want to infiltrate new markets in the medium-term[37].

Some exporters actively cooperate with middlemen, so-called traders in the process of export. A substantial number of the exporters stated that they attend international fairs specifically for attracting new clients, while some of them said that they mostly use websites of prospective clients to initiate the negotiations. A few of the interviewed enterprises also reported that their clients take care of the transportation process.

Apart from the main products, the firms also sell the processed shells, which are used as firewood, to the general public. One firm stated that processed shells account for 5% of their total revenues.

Challenges during the export process

A number of interviewed enterprises stated that they have not experienced any problems during their export process, even though those firms noticed that a large number of enterprises have had issues at the EU border (mostly, Bulgaria) due to quality assurance problems. The product needs to be checked as the EU laboratories are much more credible than those in Georgia. The process requires the packaging of the product to be damaged, that lowers the presentability of the product to the client.

In rare cases, when the container with hazelnut products are not permitted by the customs to enter the border (for instance Aflatoxin level is higher than allowed by the food and safety regulations of consignee country), the goods are returned and transported back to the producers, the cost of which is much higher than export shipping.

In addition, as transportation process is timely and hazelnut market prices fluctuate, there have been situations when clients in the EU have tried to renegotiate prices in their favor after the product was already delivered.

Sources of information about market developments

Most interviewed enterprises report having full information about market developments via the internet and their own research. The members of HEPA also state that the association tends to send new information about market developments. Additionally, some group of exporters have a shared WhatsApp group, which is mostly used for exchanging information.

Expectations about the development of the sector

Although most of the interviewed enterprises acknowledge the fact that the sector is in a crisis right now, mainly due to quality issues originated from Pharosana problem and more recent demand problems due to the COVID-19 pandemic, they still remain optimistic about the long-term growth of the sector. This optimism can be mainly attributed to the growing global demand for nuts and improved cultivation practices from farmers.

[37] Some of the targeted new markets include Ukraine, Australia, China, UAE,

11.4 BUSINESS RESOURCES

Sources of finance

For the majority of the respondents, initially enterprises were funded by the government programs (ARDA's programs), with their co-financing. Only two reported that they started business with their own savings, while two of the respondents obtained credit from commercial banks. From these two, one enterprise tried to get finance from ARDA's programs, however, their application was rejected.

For enterprises, the major sources for financing are government programs, commercial banks and donor programs. From ARDA's programs, enterprises mostly applied for Preferential Agrocredit Project[38] and Co-financing of Agro Processing and Storage Enterprises[39], while only one applied for Technical Assistance Program[40]. Through the program of preferential Agrocredit project enterprises were provided with the low interest rates on loans. Under the Technical Assistance program, one enterprise was funded to cover 80% of certification cost.

According to the respondents, in recent years there is a lack of new programs towards hazelnut processing enterprises. One of the respondents claimed: "We received a grant from ARDA when we set up the enterprise. Since then, no project has come out in the direction of hazelnuts, which would contribute to the re-equipment of technologies or the development of hazelnut enterprises." However, it has to be noted that during the recent years (starting from 2016), the government has developed and implemented many projects in direction of primary hazelnut production to fight against Pharosana. All respondents assessed these programs as being effective.

There was only one company financed by donor organizations - the enterprise (cooperative) gained a grant from ENPARD 2 program.

The most frequently mentioned problem, relating to companies access to finance, is working capital financing. According to the companies, due to the price and seasonal sales fluctuations, they don't always hold enough short-term assets to be able to pay off their short-term debts. Hence, they address commercial banks, where working capital loans are offered at unfavourable conditions. Regardless of the type of instruments and products provided by banks (short-term loans, instalment loans, line of credit etc.), interest rates are too high for them (12%-15% annual percentage rate). For one of the respondents, high interest rates on working capital loans are adequate to the risks existing in the hazelnut sector.

Moreover, high collateral requirement of commercial banks also represents a challenge for companies.

Future investment plans

The vast majority of interviewed enterprises have defined strategic plans for expansion within the next two or three years. Only one company mentioned they do not have such plans.

[38] www.arda.gov.ge/projects/read/agro_credit/
[39] http://enterprise.arda.gov.ge/
[40] http://www.arda.gov.ge/projects/read/technical_assistance%20/25:parent

Companies mostly have plans for purchasing new equipment, two of them plan to purchase laser machine to start processing higher quality product to have access to high paying markets. Another company plans to purchase hazelnut roasting as well as hazelnut meal and paste producing machines, however, this company has problems in accessing finances, as the enterprise already received loan from commercial bank and will not be able to cover the costs of another loan.

One company is planning to start exporting in new markets and purchasing hazelnut directly from farmers instead of collectors. Another company is going to start laurel production, while two enterprises are going to invest in refrigerator facilities.

One enterprise, which is currently exporting hazelnut wholesale, has the idea to start selling Georgian hazelnut by retail: "Georgian hazelnuts are distinguished by taste. At this stage, hazelnuts from Georgia are sold only wholesale. The packaging of hazelnuts and selling retail will be profitable. Branding will be essential." Another company also has a similar initiative and plans to start hazelnut exporting in Ukraine at retail.

11.5 HUMAN RESOURCES

The number of employed people among the interviewed enterprises ranges between 35-100. Among them 70-80% are women.

The majority of the interviewed companies pay their employees' wages on an hourly basis, while a few of them pay performance-based salaries.

Only three out of twelve interviewed companies have implemented motivation programs for their employees, while others do not have any.

According to the respondents, the skills and knowledge of their employees are satisfactory for them. However, many of them mentioned that, in general, the level of knowledge of employees is still a challenge for the hazelnut sector in Samegrelo-Zemo Svaneti, and there is a need for improvement.

Moreover, there is a problem related to business management and administration skills. Many respondents mentioned that finding a qualified accountant/bookkeeper, quality manager, or HR is a challenge for them.

The sector representatives see the importance of existence of short-term programs providing employees with knowledge of hazelnut processing, business management and administrative skills. Currently, there are no such programs in Samegrelo-Zemo Svaneti. Companies provide their staff with relevant trainings conducted in sorting, safety, hygiene norms, usage of technology, etc. Mostly companies conduct trainings under certification process.

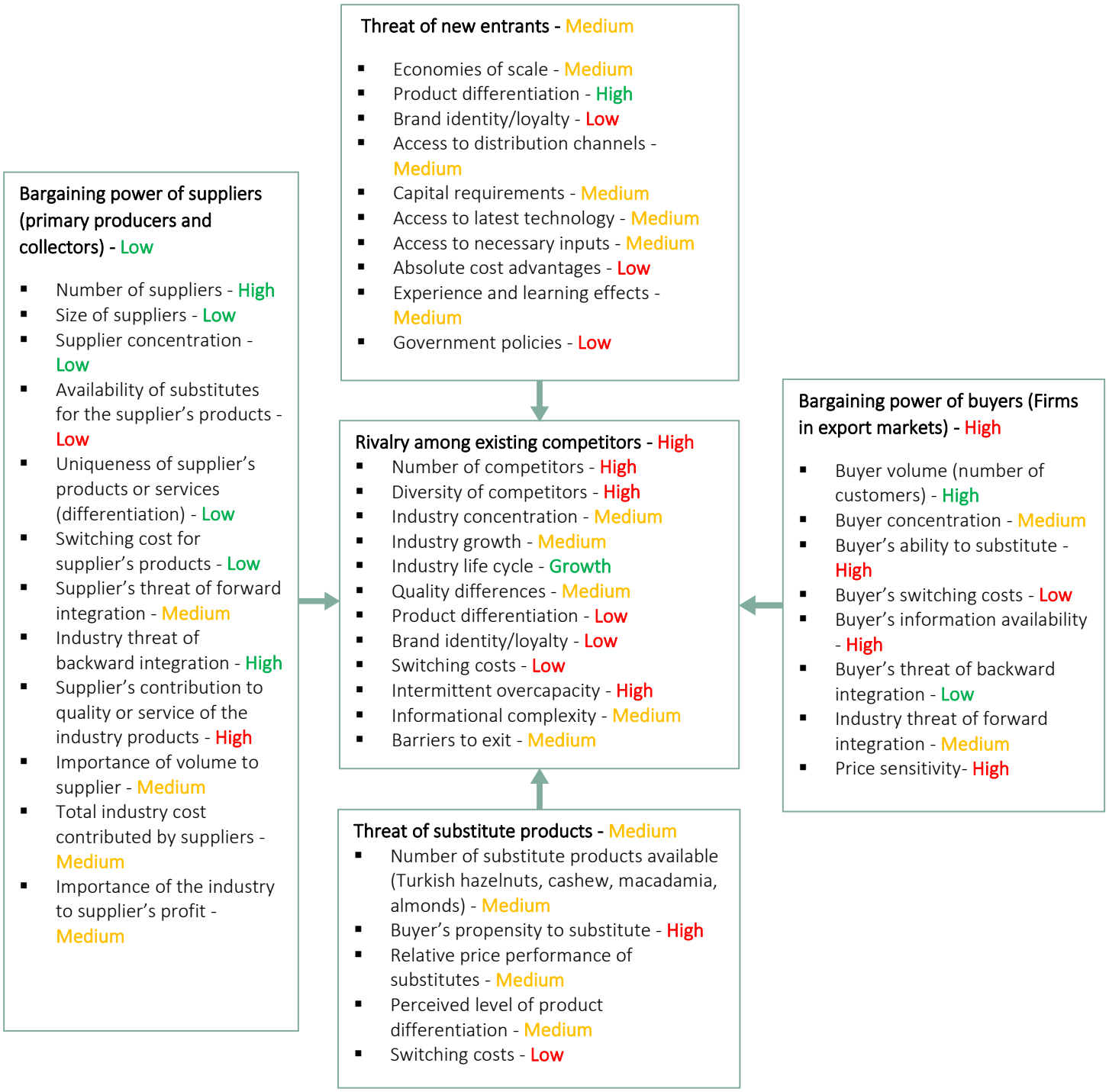
None of the interviewed companies have any cooperation experience with universities, VET institutions or other educational establishments.

11.6 SWOT ANALYSIS

Strengths	Weaknesses
- Traditional industry with historical roots - Preferable climate conditions for hazelnut - Favorable location for hazelnut processing (due to existence of raw materials) - Highly demanding product at global market - Implemented quality standards - Large variety of products - Government programs financing the sector - Existence of Associations - Technologically modernized industry - Further improvement of cultivation practices from farmers	- Low productivity of raw material (primary hazelnut) - Low quality of raw material (primary hazelnut) - Seasonality of the hazelnut production - Non utilization of full capacity due to lack of raw materials - Absence of organic production - Lack of cooperation among core firms - Lack of trust among core firms - Lack of cooperation between the core firms and suppliers of raw materials - Lack of access to finance - High interest rates on loans - High collateral requirements - Lack of access to working capital financing - Lack of access to educational programs in direction of hazelnut processing - Shortage of skills - Non-existence of the laboratory in Samegrelo-Zemo Svaneti - Scarcity of utilization of recycling, renewable energy and sustainable systems
Opportunities	**Threats**
- Increasing demand for higher value organic products - Access to the EU market - Innovative hazelnut derived products reaching global niche markets - Possibility to develop short-term educational programs - Donor and government support of hazelnut processing sector - Growing demand on hazelnut in global markets	- Pharosana and fungal deseases - Monopoly of international hazelnut market by Turkey - Leaving the market by donor and government agencies supporting hazelnut processing sector - Reputational risks for overall hazelnut sector of exporting low quality goods by a single actor - Strong control and barriers at export market customs (consignee countries, mostly EU)

11.7 PORTER'S 5 FORCES

Porter's five forces have been analyzed to determine the existing competition and possible change in competition. Low, Medium and High labels were assigned to each of the statement. Additionally, colors were assigned to each statement, red implies a fiercer competition, orange implying a moderate competition and green implying low competition. For instance, if number of suppliers is high, green is assigned to the statement, as the higher number of suppliers contributes to the lower bargaining power of suppliers and ultimately contributing to the lower competition. The detailed analysis of the sector using the Porter's model of five forces is given below:



12 | CLUSTER MAP

The chapter provides information about linkages of the cluster, identifies existing linkages, and indicates linkages that need to be developed. It also deals with critical stakeholders who need to be created in the cluster, etc.

The linkages of the cluster are weak in both directions between enterprises and support institutions.

The linkage between cluster members and VET institution is non-existent. It needs to be developed and strengthened.

The linkage between ARDA and cluster members exists, however, is not strong enough.

The linkage between HEPA and principal firms are not strong enough for a sector as a whole, as HEPA provides services to only its members. Strengthening this linkage could improve core firms access to consultancy services and advocacy.

The linkage between principal firms and GHGA is very weak and needs to be improved. Strengthening this linkage could result in increased quality of raw materials for principal firms.

The linkage between cluster members and financial institutions exists, however, cluster members do not have good experience in this direction (the conditions of financing are not suitable for principal firms).

The direct linkages between cluster members and existing donor of the hazelnut sector in Samegrelo-Zemo Svaneti – USAID – is almost non-existent, however, this does not present a challenge as USAID's G-HIP project organizes its activities through GHGA and HEPA.

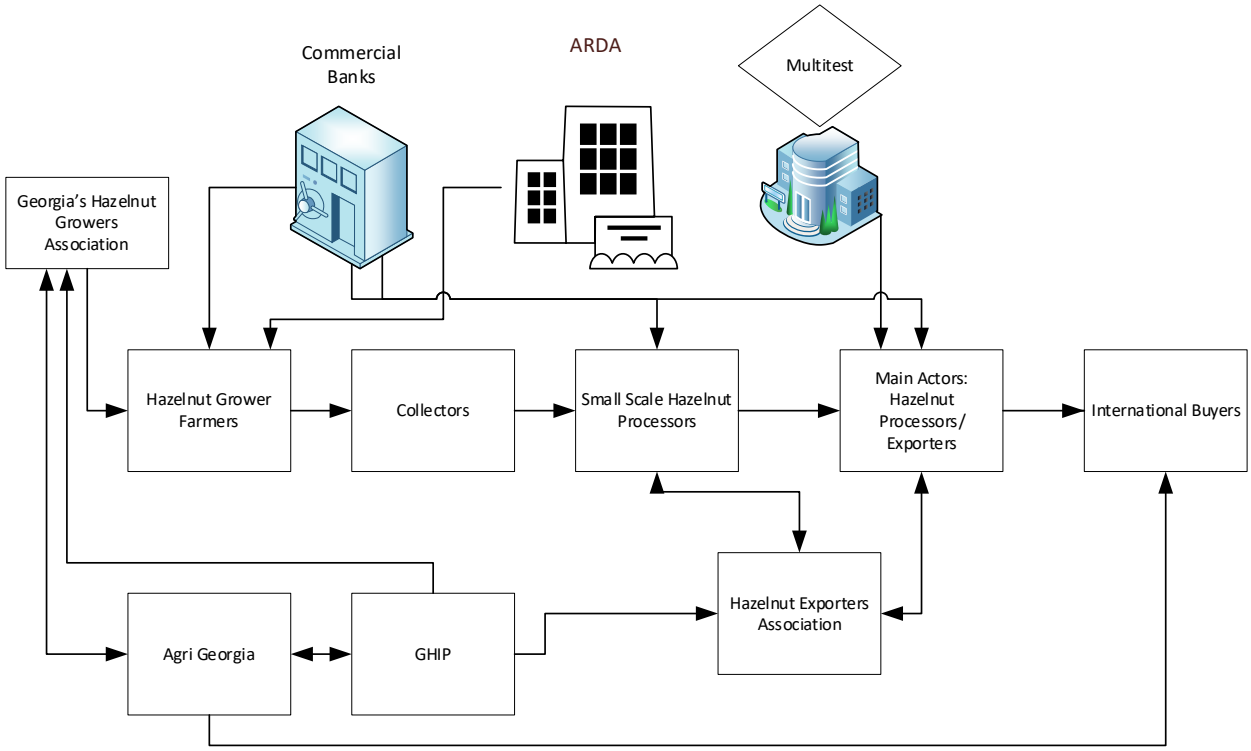
The linkage between cluster members and laboratories, mainly Multitest exists, however, core enterprises are not satisfied with this service due to time constraints.

The linkages of core firms with raw material suppliers are very weak. Core firms are competitors in the process of raw material purchasing and do not cooperate. The promotion of joint-bulk purchase of raw materials could be one of the strategic activities of the cluster, however, currently firms do not consider this opportunity. The mutual trust needs to be developed.

The linkages among the principal firms are very weak and needs to be strengthened. Companies need to develop mutual trust to carry out joint initiatives and to develop a common vision.

The cluster map is given in the diagram below:

Diagram 3: Hazelnut processing cluster map in Samegrelo-Zemo Svaneti



13 | VISION FOR THE CLUSTER

The vision of the cluster is guided by overall sectoral understanding and inputs received from the survey and analysis.

The vision of the hazelnut processing cluster is to increase the efficiency of the hazelnut processing sector in Samegrelo Zemo-Svaneti by joint efforts for improving access to raw materials and information, finance and technology as well as increasing the efficiency of human resources. That will result in increased export potential of Georgian hazelnut in the global market.

14 | CURRENT PRESSURE POINTS AND SHORT RUN OBJECTIVES OF THE CLUSTER

14.1 SUMMARY OF CHALLENGES OF THE CORE FIRMS

Low quality of raw materials

Due to the problems caused by Asian bug (Pharosana) and fungal diseases, the quality of hazelnut is insufficient for processing companies in Samegrelo-Zemo Svaneti. However, the situation is improving.

Lack of access to inputs

For interviewed enterprises access to inputs represents a challenge. In general, collectors purchase hazelnut from farmers and then sell the production to processing enterprises. According to the respondents, in general collectors do not consider market prices and sell products at a very high markup.

Insufficient quantity

According to the interviewed farmers they do not utilize full capacity of their enterprises due to insufficient quantity of hazelnut. The demand is higher compared to supply. Insufficient quantity is strongly linked with quality of raw materials, affected by Pharosana and fungal diseases. Insufficient quantity is even problematic during the off-season- May-July period, when it is very difficult to purchase any raw materials.

Volatile Prices

Volatile prices represent problem for hazelnut processing enterprises. That applies to both raw material prices and global market hazelnut production prices. Global market hazelnut production prices are defined by Turkey (TMO, Turkish Grain Board), sometimes is unstable and cannot be determined in advance.

The main source of raw materials for hazelnut processing enterprises are collectors, who purchase hazelnut from farmers. The prices of raw materials are very volatile in Samegrelo-Zemo Svaneti and there is an overall dissatisfaction with pricing strategy of collectors.

Volatile prices have been named as one of the reasons why collaboration is hard between the actors of the value chain.

Lack of access to information

According to the respondents, there is a lack of information about market access. Most of them get this kind of information from the internet and from their partners, however, sometimes provided information contradicts to each other. The respondents mentioned there is a need to have reliable source of information, providing them with market demand and existing prices.

Shortage of skills

According to the respondents, level of knowledge of employees is a challenge for hazelnut sector in Samegrelo-Zemo Svaneti, and there is a need for improvement. Apart from knowledge related to hazelnut processing, there is a problem related to business management and administration skills. Many respondents mentioned that finding a qualified accountant, quality manager or HR is a challenge for them.

Lack of access to finance

The most widely mentioned challenge faced by hazelnut processing enterprises is access to finance. Almost all interviewed companies have commercial bank loans and find it difficult to make payments. The main reason for this is insufficient income due to the low level of hazelnut production in recent years (linked to fungal diseases and Pharosana).

Financing working capital represents a challenge for the respondents. According to them, interest rates of commercial bank loans are too high for them.

The respondents mentioned that during recent years, there is a lack of new government programs towards hazelnut production. They see the importance of existing preferential loans for financing working capital.

The vast majority of the interviewed companies mentioned they are willing to add roasted hazelnuts to their product varieties, however, they are not able to do so due to nonexistence of relevant equipment.

Nonexistence of laboratory in Samegrelo-Zemo Svaneti Region

Currently, there is no laboratory available in Samegrelo-Zemo Svaneti Region, that represents a challenge for hazelnut processing enterprises. They need to wait for the results of the analysis for several days, that hinders their production process.

Bureaucratic difficulties when exporting products (export procedures and documentation)

The companies state that exporting their products entails various time-consuming procedures. The custom clearance procedures were tightened after the case when one company mixed peanuts with hazelnuts.

Technical problems – procurement act

All companies mentioned the procurement act represents problems for hazelnut processing enterprises. When companies purchase product from farmers, they create procurement acts, that is time-consuming procedure as far as companies have to buy production from hundreds of farmers and create hundreds of such documents.

Moreover, these documents are checked by the relevant government agency. While checking the authenticity of the document, representatives of the government have communication with farmers indicated in the documents; during this process farmers sometimes deny that productions were sold by them.

Obsolete part of the value chain – the collectors

According to the respondents, the collectors contribute to two of the main challenges for the target enterprises: 1) Low quality - as they mix hazelnuts produced by many different farmers, and do not track them, the overall quality of the product falls significantly 2) Price volatility - they make uninformed decisions about pricing, which often disrupt the market prices.

However, despite acknowledging the fact that the collectors are disrupting the market in an adverse way, there is a feeling of compassion towards them from some of the exporters. After admitting that the collectors are contributing to the higher volatility of prices, one of the interviewed enterprises stated: “Still, I am not going to stand against them”. The main reason behind this is that there are a lot of people employed as collectors and eradicating this part of value chain would impoverish a large number of individuals and families in the region, including those who they know personally.

Another respondent stated that despite contributing to volatile prices, the collectors are still needed to maintain competition in the industry, as “volatile prices are better than monopoly prices”. This implies that some exporters feel safer when many actors such as collectors make the sector unpredictable as it deters monopoly or oligopoly from bigger actors (namely, AgriGeorgia).

Lack of trust between the actors of the value chain

Overall, the sector suffers from trust issues between different actors of the value chain. The most common area of mistrust is the quality of products. There are instances when the firms buy each other's hazelnut kernels in order to satisfy a specific order. While they engage in testing and sorting the hazelnuts as if they were buying them from farmers or collectors, there is a risk of misaligned quality between the products of two enterprises. The part of the problem is natural, as different hazelnuts produce hazelnut kernels of different calibre, however, another part of the problem is the history of dishonest practices by some enterprises.

One of the main contributors to this issue has been a specific case in 2017. One of the large exporter companies (not named on purpose by every respondent) was engaged in mixing peanuts with hazelnuts, without disclosing it to its customers. The number of mixed peanuts was substantial and caused a woman in Germany to die of the allergy reaction to a product created by using the hazelnuts from this company. The incident contributed not only to trust issues between the enterprises who could otherwise engage in combined sales, but also created significant reputational damage for Georgian producers overall, as the incident was attributed to Georgia as a country instead of a single faulty company.

In addition, some small-scale exporters vary from the GHGA's and AgriGeorgia's involvement in the value chain and see it as an attempt to monopolize the market. Furthermore, a representative of the smaller-scale processing plant has a negative outlook for the future of its enterprise as he thinks that the existing small-scale processors will be overrun by relatively larger exporters.

Overall, as one of the respondents stated, "all of us are competitors", and when the competition is so harsh not only between the specific part of the value chain, but also among the members of different parts of the value chain, it is much harder to trust each other when collaborating.

14.2 OBJECTIVES OF THE HAZELNUT PROCESSING CLUSTER

The objectives of the hazelnut processing cluster are the following:

- Strengthening cooperation inside the cluster and building trust among cluster members
- Improving access to good quality raw materials
- Utilizing full capacity of hazelnut processors
- Improving capacity of human resources
- Increasing access to finance
- Increasing access to infrastructure
- Improving business environment
- Strengthening capacity of support institutions

For each objective, the respective activities, outputs, and outcomes are defined in the table below. Moreover, for each objective, the problems solved under this objective are specified.

Table 18: Objectives, activities, outputs, and outcomes of the hazelnut processing cluster

Objective	Activities	Outputs (Indicators)	Outcomes	The challenges solved under this objective
Strengthening cooperation inside the cluster and building trust among cluster members	Development of trust building activities among cluster members: • Raising awareness of cluster members about the benefits of cooperation and encouraging to work together • Raising awareness of cluster core enterprises about the benefits of bulk purchases and joint initiatives • Developing the dialogue platforms for cluster members • Establishing common activities, like purchasing of raw materials, or advocating policy issues, etc	• Number of meetings/ events/discussions for awareness raising about the benefits of cooperation • Number of cluster members attend the meetings/events /discussions • Number of cluster members willing to cooperate • Dialogue platform for cluster firms is developed	• Cooperation among the members of the hazelnut processing cluster is increased • The trust among the cluster members is increased • Cluster firms conduct joint initiatives together with the help of dialogue platform	• Lack of trust between the actors of the value chain
Improving access to good quality raw materials	Increasing cooperation between cluster core enterprises and suppliers of raw materials	• Number of meetings and communication of cluster core firms with the	• Access to and quality of raw materials is improved • Core firms have access to GHGA's drying facility	• Low quality of raw materials • Lack of access to inputs • Insufficient quantity • Volatile Prices

	• Intensify meetings and communication with suppliers of raw materials discussing the importance of quality issues • Creation of more cooperatives • Strengthen cooperation between core firms and GHGA to have access to raw materials provided by GHGA's drying facility Developing common facilities • Increase awareness of cluster members on the benefits of joint facilities • Analyzing with cluster core firms the need to establish joint drying facility for primary hazelnut production to increase their access to raw materials • Drafting the document on management and ownership issues of the common facility • Establish the common drying facility	suppliers of raw materials • Number of meetings of cluster core firms with GHGA • Number of meetings/discussions to increase awareness of cluster core firms to establish joint facilities	• Core firms establish common facilities	• Obsolete part of the value chain – the "collectors"

	Designing and implementing a tracking system, processors to be able to control the raw material source and quality			
Improving capacity of human resources	Cooperating with VET college • Developing short-term practical educational programs by VET college in Samegrelo-Zemo Svaneti adjusted to the needs of core enterprises • Developing short-term practical educational programs by VET college in direction of primary hazelnut production, that will increase core firms access to high quality raw materials • Developing short-term programs in business management Developing joint training programs for staff • Increasing cooperation of cluster core firms	• Number of meetings of cluster members with VET college • Number of developed short-term practical educational programs in direction of primary hazelnut production, hazelnut processing and business management • Number of joint trainings	• Short-term educational programs are established in VET college and level of skills in primary hazelnut production, hazelnut processing and business management is increased	• Shortage of skills • Low quality of raw materials

	to provide staff with relevant knowledge			
Increasing access to finance	Developing cooperation with financial institutions (FI) • Cooperating with financial institutions to develop financial products adjusted to sectoral needs • Advocating the existing problems related to loan re-payment with FIs. Developing cooperation with government agencies • Encouraging ARDA and Enterprise Georgia to include hazelnut processing sector in the priority sectors and develop special programs tailored to industry needs	• Number of meetings of cluster members with FIs and government agencies (ARDA and Enterprise Georgia) • Number of financial products developed by FIs adjusted to the needs of core enterprises • Number of programs developed by ARDA and Enterprise Georgia in direction of hazelnut processing	• Access to finance of core enterprises is increased	• Lack of access to finance
Improving access to infrastructure	• Establishing laboratory in Samegrelo-Zemo Svaneti through jointly advocating this issue with donor	• Number of meetings/discussions with donor organizations and other relevant bodies discussing	• Laboratory is established in Samegrelo-Zemo Svaneti Region	• Nonexistence of laboratory in Samegrelo-Zemo Svaneti Region

	organizations and other institutions	establishment of laboratory in Samegrelo-Zemo Svaneti Region		
Improving business environment	• Eliminating bureaucracy barriers for the sector (including when exporting products and problems related to procurement act) through joint policy advocacy campaigns	• Number of advocacy campaigns to solve the existing business environment problems	• Bureaucratic barriers are eliminated, and problem related to procurement act is solved	• Bureaucratic difficulties when exporting products (export procedures and documentation) • Technical problems – Procurement Act
Strengthening capacity of support institutions	• Increase capacity of the association of hazelnut processing sector • Support the association in lobbying the government for a change in direction of problems related export procedures and procurement act • Support the association to conduct advocacy campaigns with financial institutions to develop financial products adjusted to the needs of core enterprises.	• Number of capacity development activities for HEPA • Number of advocacy campaigns of HEPA with government bodies • Number of advocacy campaigns of HEPA with FIs • Variety of consultancy services developed by HEPA	• Association is able to provide core enterprises with necessary services • The problems faced by core enterprises are solved • Enterprises increase the efficiency due to the consultancy services provided by the association • Financial products adjusted to the needs of core enterprises are developed	• Lack of access to information • Bureaucratic difficulties when exporting products (export procedures and documentation) • Technical problems – Procurement Act • Lack of access to finance

	• Support the association to conduct advocacy campaigns with ARDA and Enterprise Georgia to create programs oriented to hazelnut processing enterprises • Support HEPA to implement consultancy services for core enterprises			