

# Consumer Market for Georgian Hazelnut and the Strategy to Improve Its Competitiveness

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**Abstract**—The paper presents the trends of Georgian hazelnut market development and analyses the competitive advantages which will help Georgia to enter international hazelnut market using modern technologies.

The history of hazelnut crop development and hazelnut varieties in Georgia are discussed. For hazelnut supply analysis trends in hazelnut production are considered, trends in export and import development is evaluated, domestic hazelnut market is studied and analysed based on expert interviews and initial accounting materials.

In order to achieve and strengthen its position in international market, potential advantages and disadvantages of Georgian hazelnut are revealed, analysis of export and import possibilities of hazelnut is presented.

Recommendations are developed based on the conclusions, which are made through identifying the key factors that hinder development of Georgian hazelnut market.

**Keywords**—Hazelnut market, hazelnut export and import, competitiveness of hazelnut.

## I. INTRODUCTION

**P**RODUCTION of national agricultural product is essential for economic development of Georgia. Competitive sectors, which have good exporting potential, are especially important. From this perspective, nuts, including hazelnut, plays an important role in agricultural sector of Georgia.

Hazelnut production is one of the oldest sector in Georgian agriculture. Hazelnut has been grown along the Black Sea and in the Caucasus since ancient times. According to historical sources, growing hazelnut in this region began in the 6th century BC[1]. Climate and natural conditions of Georgia provide good possibilities for hazelnut crop production. Producing hazelnut is the sector for Georgia to enter the international market successfully through introduction of modern technologies.

Interest in Georgian hazelnut is determined by its competitive advantages, in particular:

- The unique diversity of endemic hazelnut varieties;
- Long history and traditions of hazelnut production;
- Favorable natural conditions and resource potential;
- The ability to get high quality raw material;
- Reasonable quality-price ratio.
- Favorable quality-price ratio.

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Demand and supply on hazelnut market in Georgia has been already formed, but this segment is still significantly less developed compared to the European models.

Hazelnut production program requires to:

- Improve competitiveness of Georgian hazelnut;
- Increase awareness of the product on international market;
- Study and widen target markets of producers and consumers;
- Comprehensive analysis of micro and macro environment;
- Identifying and study of market entry barriers;
- Determine demand to supply optimum ratio;
- Prove the impact of hazelnut production on economic well-being of the country and its residents.

Therefore, study of the development trends of hazelnut production in Georgia and determination of priorities for its development is a priority for Georgia.

The objective of the research is to identify the development trends for hazelnut production in terms of producing competitive Georgian hazelnut and to develop recommendations for perspective directions of development by identifying the causes of hindering factors.

## II. METHODOLOGY

Both general and specific research methods are used in this article, namely, the methods of analysis, synthesis, induction, deduction, scientific abstraction, comparative analysis, statistics (selection, grouping, observation, dynamics, etc.), static, as well as the methods of experimental evaluation. In order to identify the patterns between the analytical and statistical estimates, the publications of National Agency for Statistics are used.

## III. DISCUSSION

Currently, demand for hazelnut on the market is high and continuously increasing. Global production of hazelnut crop amounts to 450 thousand tones. Major producing countries are Turkey, Italy, Spain and US. Georgia is also regarded hazelnut producing country.

Due to its economic importance hazelnut production arises significant interest. It's used as a raw material as well as in confectionery and perfumery. Hazelnut is also characterized by its healing properties. It should be noted that the researcher at Portland University, USA found out that hazelnut contains Paclitaxel, which is included in one of the most famous medication used to treat cancer (TAXOL).

Hazelnut has high nutritional value. Hazelnut is rich in nutrients and calories, in particular, in fat, protein and

carbohydrates. These nutritional values vary depending on the plant variety, location, soil and climate conditions. Laboratory testing proved that Georgian hazelnut has the most calories – 62-67%, which exceeds the calorificity of Turkish, Spanish, Greek and Italian hazelnut by 7-8%. 100 gram of hazelnut provides 584 calories – 2-3 times more than wheat, 3-3.5 times more than meat, 8-9 times more than milk. Hazelnut contains multiple vitamins, in particular, B1, B2, B6, C, E.

As noted above, hazelnut has significant economic importance for Georgia. Exploitation period of hazelnut tree is 25-40 years, it provides high yield for 20-25 years [2]. Growing hazelnut doesn't require heavy investment and it's less labor-intensive. In addition it's resistant to climate changes [3]. Hazelnut crop capacity is 2-4 tons per hectare.

In Georgia, hazelnut is mostly grown in west Georgia. If we discuss hazelnut production from regional perspective, west Georgia is prominent in this regard. In particular, the regions have the following shares in hazelnut production - Samegrelo-Zemo Svaneti – 52.2%, Guria – 22.7%, Imereti – 14.1% (see Table I) [4]. Lately, hazelnut production began to expand in eastern Georgia, namely in Kakheti region, as well. There are about 27 hazelnut varieties in Georgia. Local hazelnut varieties are: Gulshishvela, Shveliskura, Khachapura, Dedoplis Titi, Anaklian and others. Mose Janashvili, a 19<sup>th</sup> century famous Georgian historian described, four hazelnut varieties had been grown in Georgia since ancient times, these were: 1. Early Hazelnuts; 2. Georgian-large; 3. Greek hazelnut; 4. Wild Hazelnut [5]. Hazelnut was exported from west Georgia to other countries; more land area was covered with hazelnut orchards than currently.

TABLE I  
PRODUCTION OF HAZELNUTS BY REGIONS (THS. TONS)

Regions	2000	2009	2010	2011	2012	2013
Georgia (total)	14.6	21.8	28.8	31.1	24.7	39.7
Samegrelo and Zemo Svaneti	6.0	11.4	20.8	15.8	11.8	20.5
Guria	3.3	3.7	3.7	6.8	5.9	9.0
Imereti	3.7	3.2	2.4	4.8	3.4	5.6
The remaining regions	1.6	3.5	1.9	3.7	3.5	4.6

According to Comparative Analysis of Agriculture in the South Caucasus, the research conducted by the United Nations Development Programme (UNDP), in 2006-2010 production of hazelnut increased more (23%) than production of any other agricultural products in Georgia. According to unofficial data by the experts in hazelnut sector, in 2013 hazelnut production increased nearly 3.6 times compared to 2000 – from 14.6 thousand tons to 51.8 thousand tons [6].

It's important to analyze domestic and foreign hazelnut markets, as well as to define demand and supply and therefore price of hazelnut. Demand for hazelnut on domestic market is rather low in Georgia. Only about 10% of the hazelnut produced in the country is consumed domestically. Thus, hazelnut production is fully oriented to foreign markets and the trends on these markets. Most of the hazelnut suppliers on Georgian market are small households, there are some large farmers as well, their market share is relatively small but

steadily increasing. Increasing trends observed in the production and supply of hazelnut to both domestic and foreign markets.

As there is shortage on the hazelnut market, there are good possibilities to increase production and supply of hazelnut. The share of Georgia on this market is quite small; consequently, increase in the supply of Georgian hazelnut won't have any impact on the price of hazelnut, unlike Turkey, which holds leading positions on hazelnut market.

It's noteworthy that price of Georgian hazelnut can't be set independently – it depends on the prices abroad, in particular, in Turkey. However, there is difference between prices of Georgian and Turkish hazelnut. Price of Turkish hazelnut is higher than of Georgian hazelnut. Difference between the prices can be explained by the fact that 1 kg Georgian shelled hazelnut provides 0.4 kg of in-shell hazelnut, while 1kg Turkish hazelnut provides 0.5 kg. Thus, quality of Georgian hazelnut needs to be improved.

For the comprehensive analysis of supply of hazelnut, it's important to analyze trends in hazelnut production in other countries. Turkey is the major hazelnut producer (72.9%) [7]. This sector has great economic importance for the country. Being the leader on the market, Turkey tries to control supply of hazelnut and increase the price through different interventional policy. However, two controversial circumstances are observed: large number of producers in Turkey and changes in climate.

The US is another major hazelnut supplier on the world market. The share of US is especially high in the export of in-shell hazelnut. In particular, the share of US in the total export of in-shell hazelnut is 49%. The main export partner of US is Hong Kong, where it's re-exported to China. It should be noted as well that Turkey is strengthening its positions in hazelnut market of Hong Kong and thus competes with US.

Despite leading position of US in the export of in-shell hazelnut, in general, in the production and export of hazelnut Turkey is followed by Italy. However, Italy is net importer, as hazelnut processing sector is highly developed in the country. From this perspective, Italian market is attractive for all the hazelnut producers and exporters, including Georgia.

Spain is net importer similarly to Italy. Its main importer is Turkey with 82% share in the country's import and the main export partner is Germany with 50% of share. It's notable, that monopolistic influence of Turkey creates unfavorable conditions for local producers on domestic as well as on the EU markets, which is Spain's main exporter.

Based on the above analysis, we can conclude that as a result of limitation of production and control on prices by the main hazelnut supplier (Turkey), as well as worsened climate conditions and other influential factors, hazelnut importer countries try to find alternative hazelnut suppliers. From this perspective, great attention is paid to the countries such as Georgia, Chile, Argentina and others. By developing hazelnut production in these countries, they hope to achieve partial diversification of markets (though, Turkey's strong positions on this market makes full diversification impossible for quite a long period) as well as to mitigate the risk of climate changes

that impacts hazelnut production. Following these principles, Ferrero, a large Italian company, decided to have own hazelnut orchards in Georgia, Chile, Argentina. Ferrero got interested in Georgia in 2007 and bought 1240 hectare of land area [8], which is owned and managed by local branch Agri Georgia. The company has long-term strategies in Georgian hazelnut business.

The share of Europe in hazelnut import is quite high – 70-80% [9]. As for hazelnut consumer countries, the EU is a leader in this regard. This is mainly determined by high level of consumption in Germany (21.5%) and Italy (20.2%). Belgium, Switzerland, Russia, Poland, France, US, Austria and Hong Kong [10] are also remarkable in this regard. Most of them import raw hazelnut to process it and make different products. Though Turkey isn't among leading hazelnut consumer countries, the level of consumption is quite high after the European countries. In addition, Turkey is the largest hazelnut producer.

As increasing trend can be observed in hazelnut and chocolate consumption, it's interesting to analyze export and import of Georgia. Hazelnut is one of the most competitive products in Georgia. Ex-post analysis of competitiveness showed that hazelnut competitiveness index varies year to year. The highest indicator was recorded in 2009-2010. Comparative advantage index of export is high in corresponding period (537.1) [11].

Because of low level of consumption, Georgia doesn't import hazelnut. As for hazelnut exporters, Georgia is in top three exporters after Turkey and Italy. In the third quarter of 2014, hazelnut holds the second place in the export of Georgia according to commodity groups (10.8%). In 2014, hazelnut export grew by 41.3% compared to 2013 [12]. This is caused by the increase in export in general as well as in prices of hazelnut. In 2013, hazelnut export amounted to 116.4 million USD (increase of 128% and 65.3 million USD). The main exporting markets are Germany (41%), Italy (16%), Czech Republic (7.6%), Belgium (6%) and France (5%) [13].

As global consumption of hazelnut is growing, there is an increasing trend in hazelnut export. The highest point of hazelnut export was recorded in 2013. In 2013, the value of hazelnut export increased 2.6 times compared with 2010 and in 2012 it reduced almost by 35% compared to 2011, which was caused by poor hazelnut harvest in 2012-2013. Hazelnut export significantly reduced in 2008, which was supposedly caused by Georgia-Russian war [14].

TABLE II  
HAZELNUT EXPORT OF GEORGIA, 2010-2012

Year	thousand USD	Tone
2010	64 011	15. 150.2
2011	129 920	21. 655.4
2012	83 588	15. 625.6
2013	166629	30. 251.6

Besides the European market, since 2008 Georgian hazelnut has begun to be exported in the Middle East, in particular in Iran, Iraq, Syria, Saudi Arabia, Kazakhstan, Tajikistan, China and Hong Kong. Hong Kong re-exports hazelnut to China.

Experts consider Asia to be a large and prospective market. These markets are mainly interested in shelled hazelnuts, which reduces profit for suppliers (price of shelled hazelnut is nearly three times less than the price of in-shell hazelnut). In January-September 2011, 1430 tons of hazelnut was exported to Iraq, one of the major exporting partner of Georgia. Value of the exported hazelnut amounted to about 3.4 million USD [15].

US companies are also interested in Georgian hazelnut, but some entrepreneurs are doubtful about US market because of a number of reasons, such as long transportation time and inflexibility of payment system, while profitability of hazelnut business depends on rapid movement of money.

There is good potential for Georgia to expand market for hazelnut export. Georgian hazelnut can be exported to Japanese and EU markets. For example, Japanese Tokyo Nuts, which is the largest consumer of nuts is trying to find suppliers other than Turkey and the US. It is interested in Georgian hazelnut. Other Asian countries might also get interested in Georgian hazelnut. Ukrainian market is interesting as well, where hazelnut consumption increased by nearly 2.5 times in the last 6 years. Russian market is also quite large. It totally depends on the hazelnut import. Currently, Russian market is closed for Georgia.

Increase of export potential land entry of new markets is possible through increasing productivity or land areas covered with hazelnut plants. The latter can be done by cultivating uncultivated land areas, especially amortized tea plantations. However, this requires large investment and government support. Currently, average yield is 1.5-1.8 tons per hectare, but if cultivated properly, the yield is expected to grow up to 2-3 tons.

The number of households and small farmers producing hazelnut is about 5000. They are producing nearly 95 % of hazelnut and only 5% is produced by large farms. In 2014, price of shelled hazelnut ranged between 2-8 GEL. Expenses per hectare amounted to 1400 GEL – the cost of 1 kg hazelnut is 0.8 GEL. Thus, when farmers and households sell 1 kg hazelnut for 2 GEL, their profit is 60%, 1.4 Gel per kg.

It is important to analyze the concentration of firms in the markets. Hazelnut market in Georgia can be divided into the following levels: manufacturers of raw nuts (farmers and households); resellers (distributors); hazelnut processors and exporting firms. Each of these levels represents a unit of horizontally organized market, which are interrelated and counteracting. There are different number of firms, different types of market and different concentration of firms on each of these levels. Thus, it's advisable to discuss them separately and make conclusions about the market based on this discussion.

Dispersion of households and small farms and small-scale farming contributes to existence of intermediaries on the market. Numerous small distribution farms occur during hazelnut season and most of them operate seasonally. Two types of resellers can be identified – a. regional purchasers and b. local distributors.

They are nearly 100 companies operating on hazelnut processing and exporting market. 17 of them are relatively large companies with 70% share in export. Most of them do cleaning, sorting, calibration and packing of hazelnut. These firms can be divided into three groups: a) only exporters; b) small processing companies; c) large processing and exporting companies.

As the study showed, most of the companies don't have their own hazelnut plantations. They are mostly concentrated in Samegrelo region, use 80% of their capacities and provide significant number of jobs.

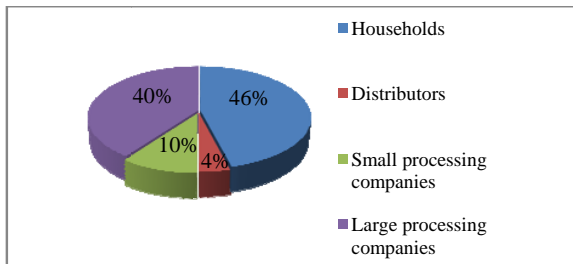


Fig. 1 Distribution of value added per kg. of shelled hazelnut between different levels of the market

Wholly, all four types of market participants export 100% of hazelnut - about 30% is purchased by Asian, 45% - by European and 25% - by Turkish distributors. They supply raw material to hazelnut processors.

Value added per kg varies between different levels of the market and it is 46% for households, 40% for large exporting companies, 10% for small processing companies and 4% for distribution companies (see Fig. 1).

In general, it can be said that the market is competitive as there are many producers and the product is highly homogeneous. However, it should be noted as well that strong interdependence of the presented levels is observed. This may cause the threat of their coordinated action on the market.

#### IV. CONCLUSION AND RECOMMENDATIONS

Market analysis and the current situation in the sector made it possible to evaluate problems, possibilities and future perspectives in hazelnut production in Georgia. There are some problems in the production and sale of hazelnut in West Georgia, in particular:

- Domestic consumption of hazelnut is low;
- Hazelnut growing areas are fragmented;
- Most of the land areas used for hazelnut cultivation is covered with low quality hazelnut varieties;
- Inefficient marketing plan;
- Subsidies and lack of cheap loans;
- Low level of modern technology needed for hazelnut cultivation;
- Underdeveloped plant nurseries and research centers;
- Poor quality and low yield of hazelnut;
- Awareness of Georgian hazelnut on international market is very low;
- Insufficient focus on strategic goals;

- Insufficient state support of export.

*Based on the analysis and the conclusions, we have developed the following recommendations:*

- ✓ The state support to the development of processing manufacturing in the country will contribute to increasing domestic consumption of hazelnut;
- ✓ It's necessary to develop an action plan for the development and widening of export markets;
- ✓ Hazelnut productivity and quality can be improved through introduction of modern technologies and improving qualification of farmers;
- ✓ Hazelnut growing areas can be widened through cultivating amortized tea plantations;
- ✓ It's important to improve hazelnut varieties, in particular, to cultivate new land areas and plant high quality hazelnut trees providing high yield;
- ✓ Market diversification tendency should be observed for large hazelnut importers;
- ✓ It's advisable to replace lower quality hazelnut varieties with higher quality varieties;
- ✓ To improve awareness of Georgian hazelnut on international market;
- ✓ Improving awareness of Georgian hazelnut on international market requires joint activities by companies operating in this sector and government support;
- ✓ It's preferable that annually, governmental agencies determine the level of competitiveness of Georgian hazelnut in cooperation with scientific and research centers based on approved methodology.

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