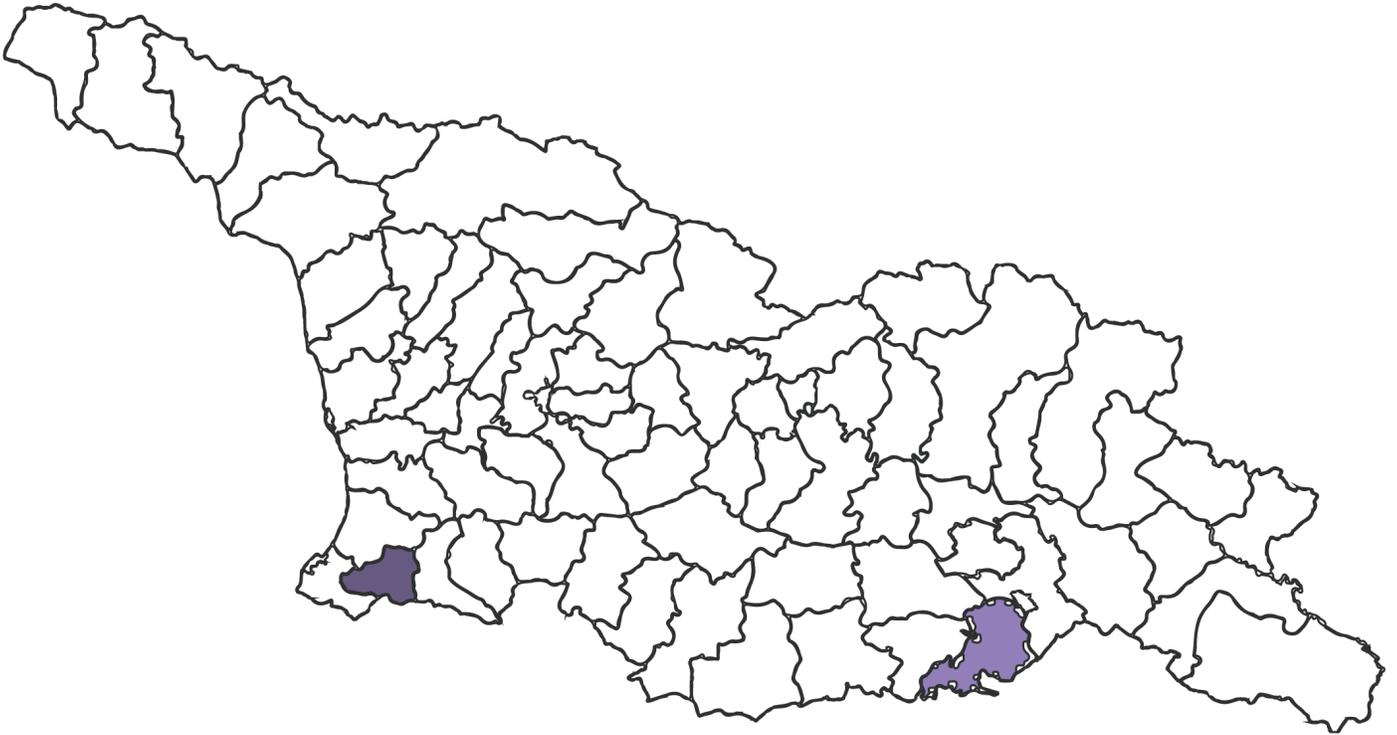




# PROCESSING AND PRESERVING OF FRUITS AND VEGETABLES VALUE CHAIN ANALYSIS IN MARNEULI AND KEDA

**USAID** UNITY THROUGH  
DIVERSITY PROGRAM  
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## 1. Introduction

The USAID Unity Through Diversity Program is a five-year program implemented by UNA-Georgia. This initiative, led by USAID, aims to be a hub for integrating ethnic and religious minorities into various aspects of Georgian society, including social, political, and economic spheres. As a subcontractor of UNA-Georgia, PMCG contributes to the expansion and strengthening of the socio-economic connections between the majority and minority communities. Their overall objective is to facilitate the establishment of mutually beneficial business relationships between these groups.

One of the components of the project is to conduct value chain assessments in target ethnic and religious minority municipalities to provide recommendations for the Unity Through Diversity Program for increasing the integration of ethnic minorities in the value chain and integrating the regional value chain in the national or international value chains.

Among the minority municipalities, processing and preserving fruits and vegetables value chain analysis in Marneuli and Keda was selected as having high development potential in line with the project objectives. The analysis of the processing and preservation of fruits and vegetables value chain analysis in Marneuli and Keda aims to identify gaps in each stage of production and proposes recommendations to meet the market's demand for a high-quality product, as well as identifying business opportunities for religious and ethnic minority municipalities and solutions for increasing the level integration of municipal value chains into national value chains.

In summary, the report is divided into the following sections to provide a comprehensive analysis of the processing and preserving of fruits and vegetables value chain analysis in Marneuli and Keda.

- Methodology: overviewing the quantitative and qualitative analysis methods used within the research of processing and preserving of fruits and vegetables value chain in target municipalities.
- Sector Overview in Georgia: describing the main findings of desk research on a national and regional level, mainly through an overview of key statistics.
- Value Chain Actors: provides a mapping of value chain actors, their descriptions, and a detailed overview of the value chain process, including primary production, storage and processing, packaging, transportation, and sales. In addition to value chain actors, this section also provides a description and overview of external stakeholders.
- SWOT analysis: describing the strengths, weaknesses, opportunities, and threats of the processing and preserving of fruits and vegetables value chain in target municipalities.
- Recommendations: provides recommendations for the program for the development of the value chain, with a major focus on the potential of integrating the ethnic minorities in the value chain, as well as the potential of integrating the regional value chain in the national or international value chains.

## 2. Methodology

For the processing and preserving of fruits and vegetables value chain analysis in Marneuli and Keda, the research utilized both quantitative and qualitative analysis methods. The research involved desk and field research, including interviews with relevant stakeholders. The processing and preserving of fruits and vegetables value chain was studied between August and September 2023.

A detailed overview of the methodology for the processing and preserving of fruits and vegetables value chain analysis in Marneuli and Keda is provided in the following sub-sections.

### 2.1. Desk Research

The desk research was conducted to provide the sector overview at national and regional levels. The statistical and qualitative information used during the desk research was sourced from:

- The Statistical Business Register of the National Statistics Office of Georgia (the number of registered businesses under the selected sectors<sup>1</sup>);
- The External Trade Portal of the National Statistics Office of Georgia (export and import values/volumes by countries);
- Revenue Service (enterprise taxes);
- National Bank of Georgia (banking entities);

At this stage of the analysis, the main insights regarding the selected sector were provided. This was accomplished through an overview of national and regional statistics and thorough online desk research, the results of which are provided in section 3 of the report.

### 2.2. Field Research

Following the desk research, questionnaires were developed to better understand the existing situation, challenges, and opportunities of the processing and preserving sector in Marneuli and Keda municipalities. The questionnaires included questions on the current production, production plans, detailed production process, sales and distribution of products, sales prices, costs of production, diseases, financing, labor force, and infrastructure. In addition to that, the questionnaires also covered general questions regarding the strengths, weaknesses, challenges, and opportunities of the processing and preserving sector in the target municipalities.

The questionnaires were designed to be sensitive to diversity and encompassed inquiries that addressed disparities, relationships, division of labor and roles, practical requirements of various groups (such as religious minorities, women, and youth), as well as issues related to access, control, and the utilization of resources.

The selection of respondents was carefully done to ensure the diversity of different stakeholders in the processing and preserving sector in target municipalities. The following table summarizes the types of local representatives interviewed within the analysis.

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<sup>1</sup> NACE REV.2 - 10.32: Manufacture of fruit and vegetable juice; 10.39: Other processing and preserving of fruit and vegetables.

Table 1: List of conducted interviews with local representatives

Stakeholder	Number of interviews conducted
Enterprises	2 <sup>2</sup>
Product-Supplying Farmers	6
Educational Institutions	2
<b>Total</b>	<b>10</b>

Based on the collected quantitative data, the report maps the processing and preserving of fruits and vegetables value chain actors, describing each of them. In addition to that, the production process is analyzed in detail, followed by the storage, processing, packaging, transportation, and sales stages of the value chain. The report also overviews external stakeholders involved in the value chain, including state institutions, sectoral associations, VET colleges, financial institutions, etc.

Apart from that, the report also includes the analysis of strengths, weaknesses, opportunities, and threats (SWOT Analysis) of the processing and preserving of fruits and vegetables value chain in Marneuli and Keda. This section is followed by the conclusive recommendations section of the report, which includes recommendations for the development of the value chain, with a focus on integrating minorities into the VC and the potential of integrating the regional value chain into the national value chain.

### 2.3. Research Limitations

The given study has several limitations:

- There exists an agricultural statistical information gap at the municipality and community level in Georgia.
- Lack of a complete database of farmers by location and agricultural product: The absence of a comprehensive and up-to-date database that includes detailed information on farmers, their sites, and the specific agricultural products they cultivate hinders the ability to gather precise data on the farmers supplying products to the enterprises in the selected sector.

## 3. Sector Overview in Georgia

Georgia, being at the crossroads of Eastern Europe and Western Asia, boasts a rich agricultural heritage and a favorable climate for the cultivation of a wide variety of fruits and vegetables. Therefore, the processing and preserving of fruits and vegetables in Georgia plays a vital role in ensuring the sustainable utilization of these resources, adding value, and extending their shelf life for domestic consumption and export.

The processing and preservation industry not only adds value to the raw produce but also creates new jobs along the entire supply chain. This not only helps in reducing unemployment rates but also contributes to the overall economic development of the region. It is essential to highlight that processing and preserving of fruits and vegetables in Georgia has outstanding potential as a substantial portion of the workforce is engaged in agricultural activities – 17.9% of the working population was employed in agriculture, forestry, and fishing in 2022 in Georgia<sup>3</sup>.

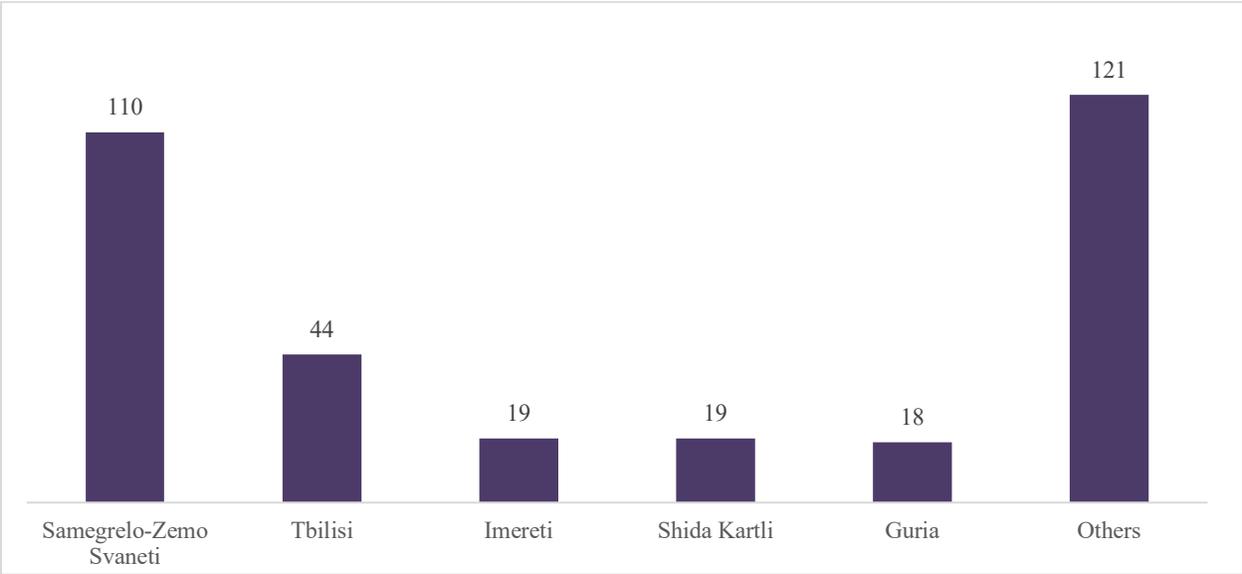
<sup>2</sup> It is essential to highlight that these 2 enterprises dominate the processing and preserving of fruits and vegetables in the Marneuli and Keda municipalities.

<sup>3</sup> Source: National Statistics Office of Georgia

Moreover, the share of workers employed in agriculture is even higher in targeted municipalities. Approximately 50% of the working population in Marneuli is employed in agriculture, while the corresponding figure reaches up to 80% in Keda<sup>4</sup>. Therefore, the availability of a skilled agricultural workforce in these municipalities provides a solid foundation for the processing and preserving of fruits and vegetables.

Currently, 331 active business entities are operating under the selected sectors in Georgia. The majority of them are registered as limited liability companies (LLCs) (212 entities - 64%), followed by 116 individual entrepreneurs (35%), 2 cooperatives, and one joint stock company. Most of those business entities are located in Samegrelo-Zemo Svaneti, followed by Tbilisi, Imereti, Shida Kartli, Guria, and other regions. Additionally, there are four active enterprises in the Marneuli and Keda municipalities, with two in each.

Graph 1: Distribution of enterprises in the selected sectors in Georgia by region



Source: National Statistics Office of Georgia

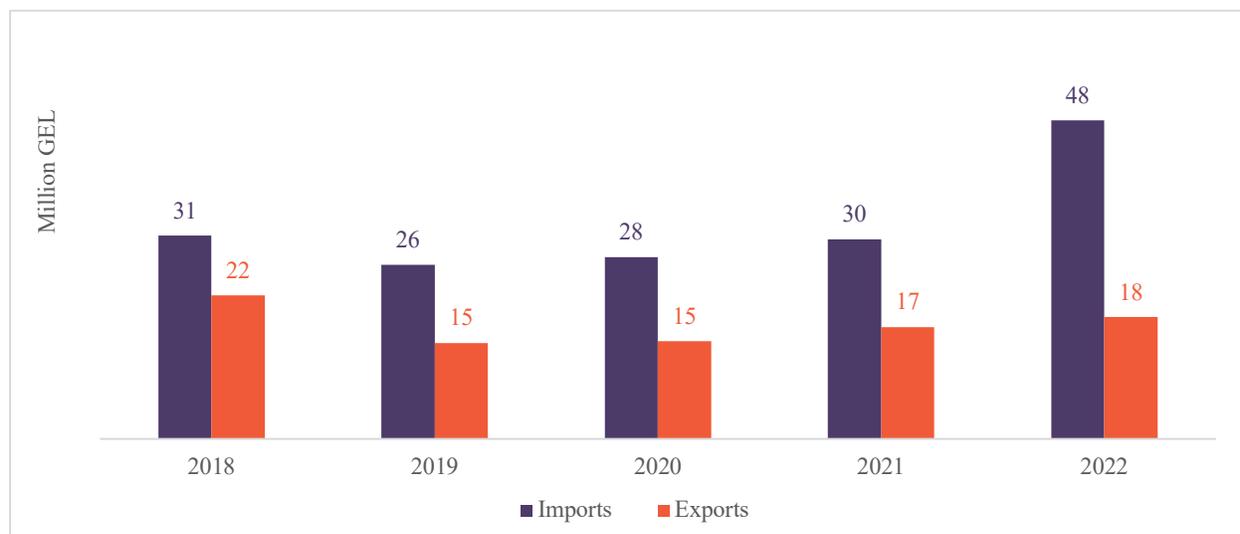
To assess the performance of the enterprises in the sector, their contribution to the state budget is analyzed. In 2022, enterprises in the sector of processing and preserving fruit and vegetables generated 9.5 million GEL, representing a 38% year-over-year (y/y) increase<sup>5</sup>. Furthermore, profit taxes paid by the sector's enterprises increased by 28% y/y in 2022, while the y/y increase in income taxes amounted to 50%. Therefore, the sector has exhibited strong growth in both revenue and tax contributions in 2022, indicating a positive trend in its overall performance.

<sup>4</sup> Source: National Statistics Office of Georgia

<sup>5</sup> Source: Revenue Service.

To get a broader perspective of the sector, it is essential to analyze the international trade in the selected categories of goods<sup>67</sup>. The value of exports of the goods in selected categories amounted to US\$18.4 million in 2022, accounting for an 8.7% increase y/y. Though the solid growth trend of exports has been notable since 2019, the value of exports failed to surpass the figure recorded in 2018 (US\$ 21.7 million). It is also essential to highlight that Georgia is a net importer of the goods. In the period of 2018-2022, the value of imports of the selected categories has always surpassed the value of exports, and moreover, the gap is only increasing. Thus, the domestic market for the goods is advancing; demand for processing and preserving of fruit and vegetables is increasing at a higher speed than supply in Georgia.

Graph 2: International trade of the selected categories of goods by year



Source: National Statistics Office of Georgia

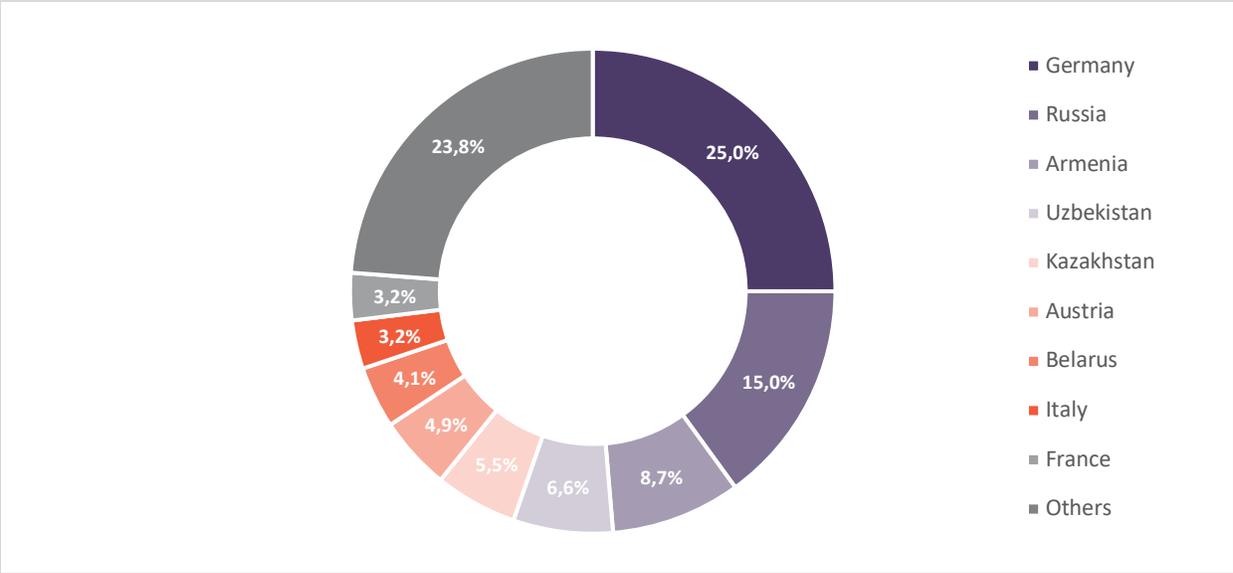
In terms of exports, the European Union (EU) countries were the leading export destination in the period of 2018-2022, accounting for half of the value of exports (49.4%), followed by the Commonwealth of Independent States (CIS) with an export share of 42.4%. However, it must be noted that the share of European countries in the export of the selected categories of goods decreased (by 23.5 percentage points) during 2018-2022, while the share of CIS countries increased (by 17.7 percentage points).

In the period from 2018 to 2022, the primary export destination countries of the selected categories of goods were Germany (25%), followed by Russia (15%), and Armenia (8.7%). Among the leading importing countries during the same period were Turkey (28.1%), followed by Russia (16.4%), China (10.6%), and Ukraine (10.4%).

Graph 3: Export destination countries of selected categories of goods in 2018-2022

<sup>6</sup> The selected categories of goods (HS4) are taken to analyze the international trade of processing and preserving of fruit and vegetables: (2001) Vegetables and other edible parts of plants, prepared or preserved; (2002) Tomatoes prepared or preserved; (2005) Other vegetables prepared or preserved, not frozen; (2006) Fruit, nuts, fruit-peel and other parts of plants, preserved by sugar; (2007) Jams, fruit jellies, marmalades, fruit or nut pure or pastes; (2008) Fruit, nuts and other edible parts of plants, otherwise prepared or preserved.

<sup>7</sup> The source of the data about exported/imported goods and exporting/importing countries is the external trade portal of the National Statistics Office of Georgia



Source: National Statistics Office of Georgia

To sum up, the processing and preservation sector for fruits and vegetables in Georgia possesses significant potential, driven by the diverse range of agricultural products available in the country. With a substantial portion of the population engaged in agriculture, particularly in the regions, there is a robust supply chain to support this sector. Moreover, it's worth noting that in 2022 enterprises in the sector have not only increased their revenues but have also seen a corresponding increase in taxes paid, further underlining the sector's growth and positive impact on the economy. Additionally, the domestic market for these goods is on the rise, with demand for processed and preserved fruits and vegetables outpacing local supply, as evidenced by international trade trends.

**4. Value Chain Actors**

**4.1. Internal Actors**

Food processing internal actors in Marneuli and Keda municipalities comprise of farmers, primary agriculture companies, and food processing enterprises.

The farmers in Marneuli municipality grow diverse varieties of fruits and vegetables, including wild plum, plum, cherry, tomato, cucumber, cabbage, carrot, quince, cornel, green herbs, pepper, eggplant, watermelon, melon, etc. Part of the harvest is supplied to the “Marneuli Food Factory”, while another part is sold on Agrarian markets of various municipalities. “Marneuli Food Factory” is a significant national player and main regional actor in the food and vegetable processing sector and has business linkages with approximately 150 farmers for sourcing primary agriculture products.

In Marneuli municipality, “Marneuli Food Factory” is a main processing company that receives agriculture products from its sister company “Marneuli Agro” and local farmers. “Marneuli Food Factory” started operation in 2007. Its primary products were tomato paste and cucumber marinade. Currently, the factory produces marinades, jams, and sauces from various products. In 2022, the enterprise produced up to 5 million jars of various products. The products of the company are increasingly popular in local and international markets. The enterprise sources 90-95% of fruits and vegetables from Kvemo Kartli Region.

70% of the inputs are provided by “Marneuli Agro”. A small share of the products is sourced from the Shida Kartli Region. “Marneuli Food Factory” acts as an important player in knowledge generation and transfer to respective farmers. It regularly shares the knowledge and experience of growing and preserving fruits and vegetables, assists farmers in the solution of various problems and hosts interested partners in their premises for observing the production process and sharing respective experience.

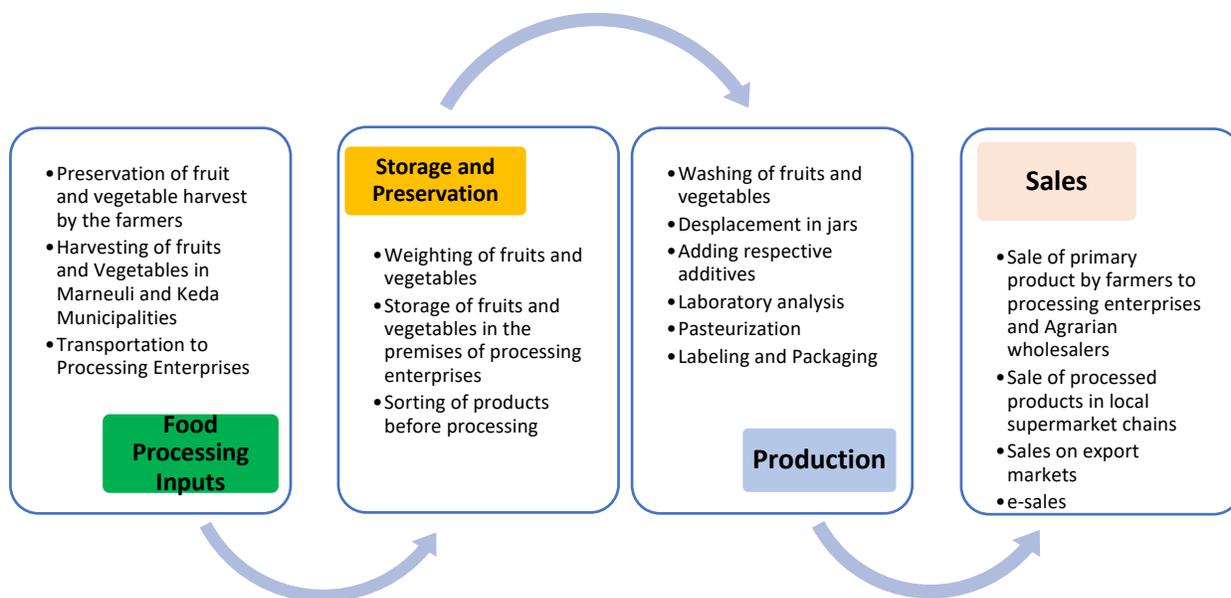
“Marneuli Agro” was also founded in 2007 and represents one of the largest primary agricultural enterprises in Georgia. The enterprise is engaged in seeding and harvesting agricultural products and supplying production to “Marneuli Food Factory”. It owns agricultural lands, greenhouses and operates respective irrigation systems. The enterprise is equipped with agricultural machines and technologies, including tractors, harvesters, and sowing and transplanting equipment. As it was mentioned above, there are only two enterprises in Marneuli municipality operating in the processing and preserving of fruits and vegetables sector. It should be assumed that the 2<sup>nd</sup> enterprise is not active, as the research team was not able to identify contact information of its management and any data on production activities. Thus, the “Marneuli Food Factory” is a main enterprise in the sector.

In Keda municipality, farmers are engaged in diverse economic activities. In addition to harvesting fruits and vegetables, they pursue beekeeping, cattle breeding, winemaking, and fishing.

In Keda municipality, the main food processing company is “Agro Keda” – a member of the KTW group. The enterprise started operation in 2015 and produces various sauces, “adjika”, honey, and other related products. The company also produced juices, but its production was stopped because the company faced difficulties in selling the product. It sources locally harvested cherry plums, greeneries, onion, pepper, and honey from local farmers. However, unlike the “Marneuli Food Factory”, the enterprise sources a variety of fruits and vegetables from all over Georgia. “Agro Keda” produces around 400,000 bottles of various sauces annually.

The food production and sales process in Marneuli and Keda municipalities is presented in the scheme below:

### **Scheme 1: Food Production Process**



#### 4.1.1. Processes for Harvesting of Fruits and Vegetables

In Marneuli municipality, some farmers grow fruits and vegetables (pepper, eggplant, watermelon, melon) in greenhouses. Seeding of pepper and eggplant takes place in January, and harvesting is practiced from the 2<sup>nd</sup> half of May. One of the interviewed farmers growing fruits and vegetables in the greenhouse practices the incineration of the harvest on a weekly basis.

Farmers practicing the harvesting of fruits and vegetables in the open fields normally undertake trimming, watering, and picking activities. One of the interviewed farmers engaged in the cultivation and harvesting of green and red wild plum practices the trimming and watering of trees. The frequency of watering depends on the weather conditions.

Some of the farmers undertake plant keeping and harvesting activities manually and do not plan to use any technologies in the process.

In Marneuli Municipality, farmers supplying “Marneuli Food Factory” have more production capacities in comparison to farmers supplying “Agro Keda”. This is caused by the availability of larger land plots in Marneuli municipality and the possibility to harvest various fruits and vegetables several times a year. In contrast, Keda municipality is located in a mountainous area, where land plots are smaller, and harvest of various fruits and vegetables is possible only once a year.

The annual quantity of products harvested by one of the farmers supplying “Marneuli Food Factory” is given in the table below:

Table 2: Annual Harvest of Farmer’s Cherry Plum in Marneuli Municipality in Tons

Type of Product	2023	2022	2021
Green Cherry Plum	45	18	20

Red Cherry Plum	87	16	80
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Source: Conducted Interview

According to the farmer, in 2023 he supplied 100% of the harvest to “Marneuli Food Factory”.

The annual quantity of products harvested by other farmers supplying “Marneuli Food Factory” is given in the table below:

Table 3: Annual Harvest of Farmer’s Eggplant and Red Pepper in Marneuli Municipality in Tons

Type of Product	2023	2022
Eggplant	7-8	7-8
Red Pepper	4-5	5-6

Source: Conducted Interview

According to the farmer, on average 70% of his products are sold to the “Marneuli Food Factory”. The rest is bought by Agrarian market resellers.

One of the interviewed farmers harvesting greens/herbs in Marneuli municipality is producing coriander, celery, parsley, and dill. In 2023, the farmer produced approximately 1.5 tons of each product. He regularly supplies “Marneuli Food Factory” and has productive partnership with the enterprise.

One of the interviewed farmers in Keda municipality is engaged in harvesting of the cultivated cherry plum. He also collects wild cherry plum and supplies both products to “Agro Keda” enterprise. On average, the farmer supplies 1-1,5 tons of cultivated cherry plum and around 3 tons of wild cherry plum to “Agro Keda”. The farmer solely depends on the demand from this enterprise. The supplied cherry plum shall not be overripe and shall be collected manually, avoiding the risk of damaging the product.

Manual work dominated the farming activities of Marneuli and Keda municipalities. Some farmers use tractors for certain agriculture operations, but harvesting fruits and vegetables is done manually.

#### 4.1.2. Food Processing

The food processing process in the “Marneuli Food Factory” differs by the types of products. For example, the production process of one of the main products - cucumber marinade, that is extremely popular on the local market, comprises of the following activities:

- Sourcing of cucumber inputs from “Marneuli Agro” and local farmers;
- Weighting of sourced cucumber;
- Calibration of cucumber<sup>8</sup>;
- Washing of product;
- Transfer of washed product to the production area;
- Displacement of cucumber in jars with respective equipment;
- Pouring of product by the salted water/brine;
- Mopping;
- Laboratory analysis;
- Pasteurization;
- Transfer of pasteurized product to the storehouse;
- Storage in the storehouse for one month;
- Release of the product from storehouse;

<sup>8</sup> Cucumbers are calibrated in accordance with the size of jars.

- Labeling;
- Packaging;
- Transfer to the storehouse;
- Release according to the received orders.

In the production process, the company mainly deploys production technologies produced in Turkey, Italy, and Germany. These technologies were installed in the period of 2010-2012. According to the representative of the company, the production technologies were identified with the assistance of friends that had work experience with European technologies. Recently, the company has acquired Chinese metal detector, that automatically stops the production equipment in the case of identification of inappropriate particles in the products. The company has acquired the HACCP standard and conducts production processes in accordance with respective requirements.

In the case of damage to technologies, the repairing process is mainly done by the internal resources of the enterprise. However, the company has identified the frequently damaged parts of production technologies and they are ordered in advance, before launching the production processes.

“Marneuli Food Factory” constantly undertakes innovative efforts for testing and introducing new products on the market. The recent products of the company are onion and “jonjoli” marinades. The company also plans to develop a ketchup line and launch the production.

In the Keda municipality, the production of sauces, that represents the main product of “Agro Keda” enterprise comprises of following activities:

- Sourcing of vegetable inputs from farmers;
- Storage of vegetables separately;
- Removal of membrane and stone;
- Transfer to the boiling machine;
- Boiling and thickening;
- Seasoning;
- Sterilization of the bottles;
- Transfer to the bottling machine;
- Bottling;
- Placement of cover;
- Pasteurization;
- Release from production facility;
- Packaging.

“Agro Keda” enterprise mostly deploys production technologies produced in Turkey. At this stage, the enterprise plans to replace certain details of production equipment. It has an in-house production technology specialist and problems associated with the equipment are mostly solved in the enterprise. In rare cases, the damaged equipment is sent to Batumi or Tbilisi for repair.

Farmers supplying fruits and vegetables to “Agro Keda” shall follow defined standards in the process of harvesting, storage, and transportation. For example, tomatoes sourced by the enterprise shall be ripe, with respective color. It shall not be rotten. Higher quality products are sourced with a higher price; thus, the farmers are motivated to follow defined rules. The enterprise also directs special attention to the storage

temperature of sourced honey. The temperature volatility causes the worsening of the quality of honey, and it may not receive positive evaluation during the laboratory analysis.

The company has acquired HACCP standard, hired a company that conducted respective trainings for the staff. The honey processing facility of the company also holds bio standard.

#### 4.2. Labor Force

Farmers in Marneuli municipality are involved in the fruit and vegetable harvesting together with their family members. All interviewed farmers need additional employees during the harvesting season. One of the interviewed farmers stated that he hires 4-5 individuals in the harvesting period, that begins in May and lasts till the beginning of the next year. In his farm, women are mostly employed for the harvesting of pepper, while men are mostly occupied for the harvesting of wild plum. According to other farmer engaged in the harvesting of wild plums, mostly Georgian employees are working in the trimming process, while citizens of Azerbaijan origin are mostly involved in the harvesting process. He employs 55-60 people in the harvesting of products. The 3<sup>rd</sup> farmer supplying variety of fruits to the “Marneuli Food Factory” employs around 80 individuals for the harvesting period. Approximately 88% of hired employees are women. As for ethnic composition, around 20% are citizens of Azerbaijan origin, 15% - Armenian, 15% - Ossetian, and 50% Georgian. One of the farmers of Azerbaijan origin supplying greens to “Marneuli Food Factory” stated, that mostly family members are engaged in farming activities. Sometimes they hire 3-4 individuals for the harvesting, but this is not a permanent case. In general, salary expectations of workers are growing, that naturally increases production costs of farmers.

“Marneuli Agro” hires 250 employees during the high season period, that starts in mid-April and lasts until the end of October. 90% of total employees are women, and 80% are citizens of Azerbaijan origin. The management of the company states that they need an additional workforce but there is scarcity in the market. To deal with labor shortage and technological modernization, with the assistance of state co-financing scheme “Marneuli Agro” purchased fruit picking machine that replaced labor of 25 employees. The new technology enabled the company to use the vacated labor force on cucumber harvesting.

“Marneuli Food Factory” employees approximately 100 individuals in the high season period, that begins from May and ends in October. 70% of the total number of employees are women. Also, 70% of the employees are of Azerbaijan origin, the rest are citizens of Georgian origin. The enterprise also has few employees of Armenian origin. After the end of the harvesting season, 50 employees remain in the enterprise.

Ethnic minorities in “Marneuli Agro” and “Marneuli Food Factory” are mostly engaged in the harvesting activities, food processing processes, and servicing of machinery.

Companies have limited cooperation with VET institutions. They provide on-the-job training for employees, especially for newcomers. According to the manager of the “Marneuli Food Factory”, training should be provided in the enterprise to ensure proper work with the company’s production equipment and facilities. “Marneuli Food Factory” had cooperation experience with Georgia’s Technical University: their employee passed the microbiology course provided by the University.

“Marneuli Agro” and Marneuli Food Factory” face a scarcity of the labor force. The main reasons for the labor shortage are migration, aging of local employees, and low interest of the younger generation in agricultural and food processing occupations.

Farmers in Keda municipality are engaged in diverse activities and have diversified sources of revenue. Harvesting of fruits and vegetables takes place on the family lands and mostly family members are engaged in seasonal works. It is a common practice to assist neighbors in the harvesting period. Thus, the need to hire individuals in the harvesting season is almost non-existent.

“Agro Keda” employees 20 persons, from which 8 are women. 50% of the labor force is Muslim. The company practices on-the-job training of workers and does not have cooperation experience with VET institutions.

#### 4.3. Sales

All interviewed farmers in Marneuli Municipality have a cooperation and partnership experience with “Marneuli Food Factory”.

One of the farmers had a partnership with “Marneuli Food Factory” 7-8 years ago and now some of his sales go to the factory “Nene”, located in Kaspi municipality of Shida Kartli Region. According to the farmer, he does not need additional efforts for sales as clients come themselves and buy products from his premises.

Another farmer stated that his recent harvest was totally bought by the “Marneuli Food Factory”. Accordingly, he does not direct any efforts for the marketing and sales of the product.

One of the interviewed farmers started cooperation with “Marneuli Food Factory” 4 years ago. Before that, the farmers faced certain problems with the sale of agricultural products. Now, “Marneuli Food Factory” buys approximately 70% of his harvest. The rest of the fruits and vegetables are sold at the agrarian markets. Transportation is ensured by the family vehicle.

One of the respondents stated that the proportion of his sales to “Marneuli Food Factory” depends on the demand from the enterprise. There are cases when 100% of the harvest may be sourced from the enterprise. Alternatively, the farmer sells his products in the Agrarian markets of Tbilisi, Kutaisi, and Gori. Transportation is ensured by his private micro bus.

Another farmer from the Marneuli municipality stated that he met representatives of the “Marneuli Food Factory” at the Agrarian market and the parties agreed on cooperation. Since then, he has received stable orders from the enterprise. The rest of the products are mostly sold on the Samgori Agrarian market located in Tbilisi.

Representatives of the “Marneuli Food Factory” stated that there is an increasing demand for the processed products of the company on local and international markets. Approximately 90% of the products are sold on the local market, while the remaining 10% are exported<sup>9</sup>. Around 60% of exported products go to the USA market, while the remaining 40% go to the EU states. The cherry plum sauce is the most demanded

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<sup>9</sup> <https://www.businessinsider.ge/ka/produksiis-90-s-adgilobriv-bazarze-vqidit-motkhovna-utskhoetshits-izrdeba-marneulis-karkhana>

product on export markets. The enterprise is unable to meet the growing demand mostly because of insufficient primary agriculture products on the local market. Supply of fruits and vegetables from local farmers and “Marneuli Agro” is decreasing, mainly because of the labor shortage. Otherwise, the production capacities of the enterprise have the potential to produce more and increase the quantities. Despite this challenge, the management of the enterprise does not consider the possibility of sourcing imported fruits and vegetables. The export is under the responsibility of the specialized sales department of the enterprise, which conducts negotiations with international partners and ensures the export of the product. The main export destination for the products is the USA, followed by EU member states – Germany, Italy, Greece, and Cyprus. From neighboring countries, the main export destination is Azerbaijan. The Ukrainian market was a growing destination before the Russian aggression, while the last export to the Russian federation took place in 2020. Recently, “Marneuli Food Factory” started negotiations with traders from Australia, New Zealand, and Cuba and exported products on these markets. In the case of export, the labelling, and packaging of the products are undertaken in accordance with the demands of buyers, while the jars are the same as on the local market. There is an experience of selling the products on amazon<sup>10</sup>.

In Keda municipality, “Agro Keda” exports approximately 65% of its products. The main export destination countries are Israel, Poland, the Russian Federation, the USA, Latvia, Azerbaijan. The labelling of the export products is done in accordance with the requirements of destination countries. For example, labels for products exported in Israel are made in Bulgaria, imported, and placed on the products in Keda municipality. Local sales of “Agro Keda” are completely conducted through the following supermarket chains operating in Georgia: Carrefour, Agrohubs, Smart, Magnit, Fresco.

Production of “Agro Keda” was presented at the “Api Mondia” international fair conducted in 2019 and 2022 in Canada and Turkey, respectively. In 2021, in London the “Jara” and chestnut honey produced by the company acquired silver medals.

“Agro Keda” has a marketing manager and special group that works on the design of bottles and labels. The bottles are imported from Turkey, the Russian Federation, and Bulgaria.

When asked about the prospects of the sector, the absolute majority of interviewed farmers, also representatives of processing companies, have positive expectations. Farmers mostly plan to expand their orchards on the lands that are in the family’s possession. Processing enterprises seek ways to respond to the increasing export demand and undertake measures to introduce new products on the market.

#### 4.4. Challenges

Based on the interviews with farmers and representatives of processing companies, the following challenges were identified:

##### **Labor Shortage**

- Aging workforce;
- Migration trends to the capital city and abroad;
- Higher wages demanded by workers;

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<https://www.amazon.com/Tkemali-Authentic-Georgian-%E1%83%9C%E1%83%90%E1%83%9B%E1%83%93%E1%83%95%E1%83%98%E1%83%9A%E1%83%98-%E1%83%A2%E1%83%A7%E1%83%94%E1%83%9B%E1%83%90%E1%83%9A%E1%83%98/dp/B06XPPRRGB>

- Lack of interest among the younger generation to be engaged in agriculture activities;
- Lack of information and knowledge on agriculture technologies.

#### **Access to Technologies**

- Prevalence of manual work in primary agriculture activities;
- Lack of intensive use of equipment and technologies in farming activities;
- Lack of weather-resistant farming technologies;
- Lack of experience among farmers in applying to state-managed programs' support for the technological modernization of farms;
- Lack of access to cold storage and ordinary storage facilities.

#### **Access to Finance**

- Lack of financial literacy among farmers;
- Lack of information on state support programs;
- Lack of information on the available donor assistance.

#### **Marketing and Sales**

- Undiversified sales channels – majority of farmers sell to “Marneuli Food Factory”, or to resellers of Agrarian markets. Sales of primary products to supermarket chains and e-sales are not practiced;
- Absence of branding and packaging experience for primary agriculture products;
- Lack of marketing experience among farmers;
- Insufficient use of e-sales platforms for primary and processed agriculture products;
- Unstable geopolitical environment – Russia’s aggression in Ukraine.

#### **Other Challenges**

- Absence of regional associations or clusters for the advocacy of farmers’ problems and more efficient use of their scarce resources;
- Damaged road infrastructure around the “Marneuli Food Factory”;
- Insufficient knowledge of the Georgian language among ethnical minorities in Marneuli Municipality;
- Non-existence of crop insurance among farmers;
- The decreasing quantity of primary products mainly due to the labor shortage.

### **5. External Stakeholders**

#### **VET Institutions**

There are two VET institutions in Marneuli municipality and one in Keda municipality.

#### **Vocational College Modus**

The Marneuli branch of the Vocational College Modus launched activities in 2019. The 3-year fruit growing professional program started in 2022. The gardening program was implemented in the period of 2022-2023 and students obtained certificates of accomplishment. The majority of gardening program attendants were women, while the gender distribution of fruit growing program is equal.

The management of the Marneuli branch regularly studies market demand for professional education. For this purpose, representatives of the college meet with community organizations, municipalities, schools and

send respective questionnaires to those institutions. The college has signed MOUs with large farmers, Marneuli Food Factory, and other organizations. In the scope of cooperation with Marneuli Food Factory the students at the college visit the production facilities of the company to acquire knowledge of its business and production activities. However, the management of the “Marneuli Food Factory” prefers to advance the professional level of their employees via on-the-job training. According to them, this is the best way for the workers to get acquainted with the production technologies installed in the factory. The college also collects information on the career development of its students.

The college is a relatively new institution on the local market and its management spends resources on improving the visibility and delivery of information on available professional programs.

### **College of Marneuli**

The College of Marneuli launched professional education activities in 1992. The college does not offer any programs in primary agriculture or food processing industry. Its programs cover professional education pharmacy, nursery, office management, financial services, ICT, preschool education, accounting. Representatives of the college regularly study the market demand for professional education at local and regional levels. They also analyze the information provided by the municipalities and the Ministry of Economy and Sustainable Development. The college regularly interacts with private sector companies and conducts respective forums with the participation of potential employers. Its students also have internships in the premises of partner companies. Once on 3 years, the quality manager of the college conducts a business satisfaction survey, that studies the work performance of college students in respective companies.

Representative of the college stated that the main challenge is the insufficient knowledge of Georgian language in the region and Marneuli municipality. However, the situation is gradually changing as far as the younger generation studies Georgian. The problems with the Georgian language are especially observable in the villages. The college management attempts to solve this problem by delivering intensive courses in Georgian language in the scope of professional educational programs. Another challenge is associated with an unstable municipal transport system connecting regional cities and villages with the Marneuli municipality.

### **Black Sea College**

Black Sea College provides professional education programs in Batumi, Keda, and Shuakhevi. Its main office and educational infrastructure are located in Batumi. In Keda municipality, the college has programs in beekeeping, computer networks and systems, and electricity. The dual program in beekeeping aims to equip beekeepers with respective knowledge, skills, and competencies to enable the deployment of knowledge in practice. The duration of the program is two years. It aims to enable participants to manage beekeeping businesses, manage bee diseases, produce beehives, and produce bee glue, wax, pollen, bee milk, and poison. The graduates shall be able to manage their beekeeping businesses.

### **Public Institutions**

#### **Laboratory of the Ministry of Agriculture**

The State Laboratory of Agriculture is a legal entity of public law under the Ministry of Environment and Agriculture of Georgia. It examines food and raw materials of animal and plant origin, animal feed and raw materials, non-alcoholic beverages, and drinking water. The laboratory determines quality and feed ability.

It also participates in disease control and quarantine measures. The laboratory gradually adopted and improved honey testing methods and standards. Currently, it may inspect 12 parameters of honey, including the containment of antibiotics or pesticides.

### **Rural Development Agency**

The Rural Development Agency (RDA) operates under the Ministry of Environment and Agriculture and implements private-sector support programs for agriculture and rural development. Support of beekeeping of fruit and vegetable growing, and their processing has been a priority of the agency since its creation, and it has supported farmers and private entrepreneurs throughout Georgia.

The Agency manages the following ongoing programs relevant to the sector:

- State program for co-financing of processing and storage enterprises;
- Industrial apple sales promotion;
- Co-financing program for harvesting agriculture machinery;
- State program for support of beekeeping agricultural cooperatives;
- Program for the promotion of entrepreneurial activity in mountainous regions;
- Bioproduction promotion program;
- Preferential agrocredit project<sup>11</sup>.

### **Business Associations**

In Marneuli and Keda municipalities, business associations uniting farmers and processing companies do not exist. Interviewed farmers and processing enterprises are not members of any association or cooperative.

However, in the Adjara region, two beekeepers' associations operate:

- The Jara Beekeeper's Association (JBA) was established in 2019 and its goal is to protect the interests of the members, provide respective information, and assist in bio certification and production process.
- Beekeeping Business Association of Adjara was established in 2016 under the Chamber of Commerce and Industry of Adjara and unites 120 beekeepers. The association protects the interests of beekeepers at local and international levels.

### **Financial Institutions**

#### **Adjara**

Adjara is well-represented in terms of the number of banks operating in the region, with 12 out of the total 14 banks in Georgia.<sup>12</sup> However, the diversity of banks is primarily concentrated in Batumi, whereas other municipalities have a limited presence and Keda is no exception.

Table 4: Banking entities in Adjara and selected municipalities

Region/Municipality	Branches and Service Centers	ATMs	Number of Banks
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<sup>11</sup> As revealed during interviews with the supplier farmers of the 'Marneuli Food Factory,' none of them were informed about the project or had participated in it.

<sup>12</sup> The source for the financial institutions is the National Bank of Georgia.

Adjara	79	304	12
Keda	3	6	2

Source: National Bank of Georgia

Furthermore, Adjara is also well-represented in terms of branches and service centers of the banks, with a total of 79. However, the majority of the branches and service centers (70%) are located in Batumi, leaving less than a third of them for other municipalities. In particular, Keda has only 3 branches.

Moreover, there are 304 ATMs in Adjara, making the region the second most represented in terms of ATMs after Tbilisi. Most of the ATMs (79%) are in Batumi, while the remaining are distributed across the municipalities. Notably, Keda has 6 ATMs.

Adjara is also well-represented with a number of branches of non-bank financial institutions, contributing to the overall financial ecosystem. There are 39 branches of lending entities, amounting to 12% of the total branch count in Georgia. Currency exchange bureaus have a larger presence, with a number of 182 branches, accounting for 26% of the total – in line with the region’s developed tourism industry. On the other hand, microfinance organizations are comparatively less represented with 40 branches (10% of the total), raising concerns about financial accessibility, especially in the municipalities.

Table 5: Number of branches of Non-Bank Financial Institutions in Adjara and their share in total branches in Georgia

Non-Bank Financial Institutions	Number of Branches	Share in Total Branches
Lending Entities	39	12%
Currency Exchange Bureaus	182	26%
Microfinance Organizations	40	10%

Source: National Bank of Georgia

To sum up, Adjara boasts a significant presence in the banking sector, with 12 out of the total 14 banks in Georgia operating in the region. However, the concentration of banks is primarily in Batumi, while other municipalities including Keda have a limited presence. Adjara also has a substantial number of branches and service centers and ATMs, with a majority located in Batumi as well. In terms of non-bank financial institutions, Adjara has a considerable number of branches, particularly in currency exchange bureaus.

### **Kvemo Kartli**

Kvemo Kartli has 7 banks out of 14 operating banks in Georgia. In terms of banks per municipality, the selected municipalities in Kvemo Kartli have a higher concentration compared to the selected municipalities in Adjara. Notably, all of the region-accessible banks operate in Marneuli.

Table 6: Banking entities in Kvemo Kartli and selected municipalities

Region/Municipality	Branches and Service Centers	ATMs	Number of Banks
Kvemo Kartli	77	140	7
Marneuli	16	23	7

Source: National Bank of Georgia

Furthermore, Kvemo Kartli is well-represented in terms of branches and service centers of the banks, with a total of 77. Moreover, the number of branches is well diversified across the municipalities, while only 35% of the branches and service centers are located in the regional capital, Rustavi. Across the selected municipalities, most branches and centers are in Marneuli (16).

On top of that, there are 140 ATMs in Kvemo Kartli. However, the distribution of the ATMs is not well diversified across the municipalities. Though, the majority of ATMs are concentrated in Marneuli across other municipalities of the region.

In terms of non-bank financial institutions, Kvemo Kartli has 17 branches of lending entities, representing 5% of the total lending entity branches of Georgia. Moreover, there are fewer currency exchange bureaus, with 46 branches, representing 7% of the total branches. On the other hand, there is a higher number of microfinance organizations, with 32 branches, representing 8% of the total number of microfinance organizations in Georgia.

Table 7: Number of branches of Non-Bank Financial Institutions in Kvemo Kartli and their share in total branches in Georgia

Non-Bank Financial Institutions	Number of Branches	Share in Total Branches
Lending Entities	17	5%
Currency Exchange Bureaus	46	7%
Microfinance Organizations	32	8%

Source: National Bank of Georgia

To sum up, Kvemo Kartli is a prominent region in the banking sector, hosting 7 out of the 14 operating banks in Georgia. The banks are well concentrated in Kvemo Kartli's municipalities, though Marneuli stands out as the municipality with all the regionally accessible banks. Kvemo Kartli also demonstrates a well-diversified distribution of branches and service centers, ensuring accessibility throughout the region.

## 6. SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▪ Preferable conditions to grow fruit and vegetables;</li> <li>▪ Good quality local natural agriculture products;</li> <li>▪ Positive cooperation experience between local farmers and food processing companies;</li> <li>▪ Constant efforts to introduce new innovative products in processing enterprises;</li> <li>▪ Rising export competitiveness and increased export demand for processed products;</li> <li>▪ Penetration to new markets, such as Australia, New Zealand, Japan, and Cuba;</li> <li>▪ Increasing demand on the domestic market;</li> </ul>	<ul style="list-style-type: none"> <li>▪ Low productivity of Georgian farmers;</li> <li>▪ Prevalence of manual work in primary agriculture activities;</li> <li>▪ Absence of quality standards in farms;</li> <li>▪ Absence of regional agriculture and food sector associations;</li> <li>▪ Lack of motivation of the younger generation to be engaged in agriculture activities;</li> <li>▪ Weak cooperation between the VET institutions and processing enterprises;</li> </ul>

<ul style="list-style-type: none"> <li>▪ DCFTA, FTAs with Turkey, China, CISs;</li> <li>▪ Positive attitude towards Georgian products on the local market.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Insufficient production inputs (fruits and vegetables) to meet increased demand on export markets;</li> <li>▪ Unstable municipal transport services;</li> <li>▪ Insufficient knowledge of the Georgian language among ethnic minorities;</li> <li>▪ Absence of locally produced inputs for processed enterprises, such as labels, jars, and bottles.</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>▪ Job creation opportunities in primary agriculture and food processing activities;</li> <li>▪ Investment in the creation of more food processing companies will create additional linkages with local farmers;</li> <li>▪ Increased participation in state-supported programs;</li> <li>▪ Opportunities to replace labor work with modern harvesting and processing technologies;</li> <li>▪ Import substitution.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>▪ Unfavorable weather conditions;</li> <li>▪ Rising salaries of contract workers;</li> <li>▪ Decreased quantity of produced primary agriculture products;</li> <li>▪ Increased migration;</li> <li>▪ Increasing import;</li> <li>▪ Increasing cost of labor;</li> <li>▪ Disruption of exports due to unstable geopolitical environment.</li> </ul>

**7. Recommendations**

**Improve Access to Agriculture Technologies** – Support may be implemented via targeted grants or co-financing mechanisms to equip farmers with modern primary agriculture technologies. Improvement of access to agriculture technologies and support their acquisition and adoption will address the labor shortage challenge, improve the efficiency of agriculture activities, increase harvested volumes, and supply processing enterprises with sufficient quantities of fruits and vegetables that will enable them to substitute import on local market and meet increased demand from export markets.

**Support Processing Enterprises in Technological Upgrading** – Technical and Financial assistance shall assist processing enterprises in assessing their technological readiness and innovation capacities, identification of proper processing and storage technologies, support in their acquisition and adoption in production facilities, and deliver training to regular staff members and technology maintenance specialists. Such support will improve the competitiveness of enterprises and their products, especially in export markets.

**Support Creation of Food Industry Associations and Clusters** – Strong associations/clusters will support the proper deployment of scarce resources of farmers and processing enterprises. Technical assistance in the creation and development of such business support organizations will motivate value chain actors to strengthen cooperation, elaborate action plans for tackling common challenges, and enable them to improve access to finance, technologies, and markets.

**Improvement of Marketing and Branding Skills of Farmers** – Technical assistance shall be directed to those farmers who plan to intensify the marketing of their products. The support may include training in

basic marketing skills, e-marketing techniques, communication with customers, and response to their demands and feedback. Improved marketing capacities will assist farmers in diversifying their sales channels and increase revenues from agriculture activities.

**Promote Agricultural Education and Enhance Cooperation with VET Institutions** - To ensure the sustainability of farming in the targeted municipalities, it is essential to involve younger generations in the value chain. Promotion could be achieved by collaborating with local schools and colleges to create programs that educate and engage younger generations in modern agricultural techniques. This can help bridge the gap left by the aging workforce, creating a sustainable labor pool for the future. It could also address the need for skilled labor when introducing new technologies.

**Support the Creation of Cooperatives for Technology Sharing** - Promote equipment-sharing cooperatives among farmers to reduce the cost of acquiring technology. This approach will not only lower the cost of adopting new technology but also facilitate the sharing of experiences and knowledge. Such a collaborative approach fosters community spirit and ensures equitable access to technology.

**Create Financial Literacy Programs Tailored for Farmers** - Farmers need improved financial literacy to diversify their sales channels and engage in effective marketing. To ensure that farmers can efficiently manage their businesses, tailored training programs could be offered to address the unique challenges and opportunities that local farmers face. This knowledge can empower them to make informed decisions, access loans, and utilize financial products. Enhanced financial literacy will also enable farmers to participate in support programs and grants more effectively.