

Market Research:
Potato Planting Sector
at Kvemo Kartli, Shida Kartli, and Samtskhe Javakheti Regions, Georgia



Smeda LLC

2017

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Introduction

This research, “**Market research of Potato Planting Sector at Kvemo Kartli, Shida Kartli and Samtskhe-Javakheti Regions, Georgia**”, has been developed by Smeda LLC, a Small and Medium Enterprise Development Agency, initiated by International Organization Mercy Corps, under the frames of “Strengthening Farmer Cooperatives in Rural Municipalities of Georgia”, a project implemented by the European Neighborhood Programme for Agriculture and Rural Development (ENPARD).

1.1 Market research objects

Annual agricultural crop – potato – was the object of this market research.

1.2 Objectives and tasks of the market research

The objectives of the implemented research were as follows:

- Investigation and analysis of current condition at potato planting sector in the target regions / municipalities of the project, in particular:
 - Obtaining and analyzing the comprehensive and updated information about today’s main players as well as current market environment in mentioned sector / market
 - Estimation of hindering factors and potential systematic solutions in mentioned sector / market to meet the needs of small farmers operating in potato planting sector in target regions and municipalities, leading ultimately to enabling the small farmers of potato planting sector to produce and sale competitive products.
 - Embedding the results of the implemented market research into respective report and presenting the report to Mercy Corps thereof.

Research aimed at identification of:

- The approximate total volume of the potato produced in target regions on regional and municipal levels; a weighted share of the large producers and small potato farmers in this volume; the weighted correlation and seasonality of the local and imported potato at target markets
- The volume of existing and potential demand for potato at target markets (both on regional and municipal levels), demand’s satisfaction ratio by local production

- Type of consumer demand on potato, consumer preferences to products in terms of following parameters: product origination, physical appearance, quality, taste, type / sort, package, shape and size, etc.
- Main local players, producers, suppliers, wholesalers, distributors, importers in potato planting sector, conditioning current situation on market
- Marketing connection level for locally produced potato at regional and central markets
- Level of support towards proper development of potato planting sector from current market, legislative, social-economic environment, as well as level of support from supply, service, consultancy and other available systems
- Today's obstacles hindering development of local potato planting sector, types of support, the shortage of which is most painful for small farmers
- Opportunities to improve current environment for the local small farmers producing potato (in terms of value added production, value chain development, markets diversification, export-oriented production development).

1.3 Applied Methodology

During research, we have applied the following methodology for collection, grouping, processing and analyzing of data and information: desk research, collection and processing of statistical or other data and information, on-site (field) survey in target regions and municipalities, and meeting with Focus Groups. Specially elaborated questionnaires have been applied for meetings with Focus Groups on site as well as for discussions of research topics.

1. 4 Market research period and geographic area

The research has been implemented from February 7, 2017 to April 25, 2017 and has covered Kvemo Kartli, Shida Kartli and Samtskhe-Javaketi regions. For research purposes, field activities pertaining to local Focus Group meetings have been implemented in twelve (12) municipalities of three (3) target regions:

➤ Shida Kartli:

- Gori
- Kareli

➤ Samtskhe-Javakheti:

- Adigeni
- Akhaltsikhe

- Khashuri
 - Kaspı
 - Aspindza
 - Ninotsminda
 - Akhalkalaki
- Kvemo Kartli:
- Marneuli
 - Gardabani
 - Tetritskaro

1. 5 Implemented activities for market research purposes

1.5.1 Obtaining and processing official statistical information and other unpublished information related to research

On initial period of survey, we have processed the latest statistical information pertaining to potato production and import, available in Georgia and particularly, in target regions of research.

In parallel to the official statistical information, we have also processed potato planting problems-related various reports, surveys, analytical articles, relevant publications, data received from local governments both on regional and municipal levels. Respectively, the general volumes of potato production and import could be determined and the major trends could be identified in Georgia and target regions for recent 3-5 years period.

1. 5. 2 Determination of Focus Groups for field works, development of proper questionnaires for surveys

Proper Focus Groups have been selected in target municipalities and meetings have been arranged with them.

The Focus Groups consisted of:

- Local potato producer farmers
- Local potato producer farmers unions, including associations, cooperatives, etc.
- The wholesalers / traders, mediators, acting in regional / municipal agrarian markets.
- Agricultural (potato planting) materials and relevant service providers
- Representatives of local restaurants, hotels, shops which purchase potato
- Representatives of informational consultancy centers of Ministry of Agriculture operating within target municipalities; representatives of local self-government and other respective bodies, other interested parties
- Local coordinators of ENPARD Georgia in the local municipalities

In parallel to determination of Focus Groups, the proper survey questionnaires have been also developed.

1.5.3 Arranging meetings with Focus Groups

Twelve (12) meetings have been arranged for field research purposes. In total, one hundred and nineteen (119) persons attended Focus Group meetings.

The meetings were interactive: Focus Group members were actively discussing the topics, enabling us to obtain the realistic and comprehensive information about the current situation and existing problems in potato planting sector.

1.5.4 Telephone interviews

In parallel to Focus Group discussions, telephone interviews with potential consumers of potato have been also implemented. The interviewers contacted randomly selected respondents and identified their preferences and criteria according to which consumers buy potato.

The telephone interviews have been implemented in nine (9) main cities of Georgia: Tbilisi, Telavi, Gori, Akhaltsikhe, Kutaisi, Batumi, Zugdidi, Rustavi, Marneuli, where the major potato consumers are concentrated. In total, six hundred (600) respondents have been interviewed by telephone. Their opinions and preferences to potato products are presented in research report.

1.5.5 Sum-up and analytical processing of information collected through implemented arrangements for research purposes. Development of final market research report

On final phase, we have summed up and analyzed information obtained and collected by desk and field surveys and telephone interviews and developed the final document.

2. Main results of market research

2.1 Review of statistical data and desk research results

2.1.1 Local production

Per the data from GeoStat, a National Statistics Office of Georgia, during 2012 - 2015, potato was produced in following volumes in Georgia:

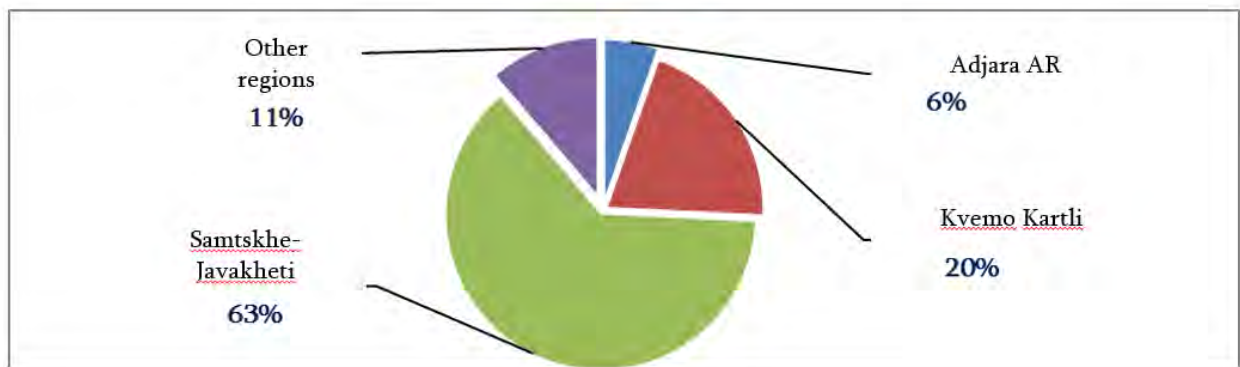
Table 1: Local production of potato per regions (thousand tons)

	2012	2013	2014	2015
Georgia	252	297	216	206
<i>Out of which:</i>				
Adjara A/R	13.6	11.7	18.1	12.1
Kvemo Kartli	51.3	91.3	55.0	53.4
Samtskhe-Javakheti	158.7	164.2	115.3	114.8
Other regions	28.4	29.4	27.8	25.9

Source: National Statistics Office of Georgia

Below we present percentage distribution of potato produced in Georgia per regions. More specifically, 63% of the total volume is produced in Samtskhe-Javakheti region, 20% - in Kvemo Kartli, 6% - in Adjara, and 11% - in other regions.

Chart 1: Potato production per regions



Source: National Statistics Office of Georgia

In addition to that, we have requested information from GeoStat about area of plots planted by potato and average productivity in Georgia and its regions.

Table 2: Area of plot planted by potato per regions (thousand hectares)

	2012	2013	2014	2015
Georgia	25.8	26.2	18.3	25.1
<i>Out of which:</i>				
Adjara AR	1.2	0.8	1.3	1.4
Kvemo Kartli	5.0	7.9	4.0	6.4
Samtskhe-Javakheti	14.8	12.4	8.9	12.1

Other regions	4.8	5.0	4.0	5.2
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Source: National Statistics Office of Georgia

Table 3: Average productivity of potato per regions (tons / hectare)

	2012	2013	2014	2015
Georgia	9.9	11.3	11.6	8.1
<i>Out of which:</i>				
Adjara AR	18.6	13.0	12.0	7.3
Kvemo Kartli	10.2	11.5	13.5	8.1
Samtskhe-Javakheti	10.8	13.2	12.9	9.6
Other regions	5.7	5.6	6.4	4.7

Source: National Statistics Office of Georgia

According to above results, average productivity of potato per hectare is 8-11 tons in Georgia. It confirms that productivity is very low at potato planting sector in Georgia, lagging significantly behind an average rate (50-60 tons / hectare) in developed countries.

Table below highlights information presented by GeoStat about retail prices on potato at cities and markets during different months in Georgia:

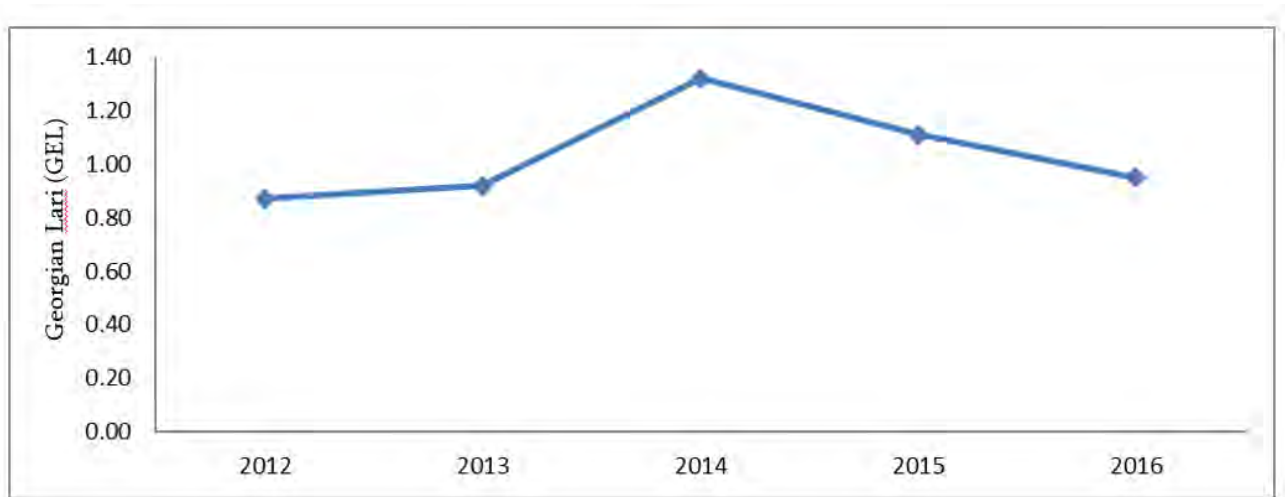
Table 4: Food potato retail prices at cities and markets per the months across Georgia

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Annual (Average)
2012	1.01	1.00	0.98	0.96	0.90	0.90	0.84	0.76	0.79	0.78	0.76	0.75	0.87
2013	0.77	0.73	0.73	0.74	1.09	1.03	0.86	0.84	0.89	0.89	0.90	1.52	0.92
2014	1.56	1.61	1.59	1.65	1.83	1.19	0.79	0.84	1.07	1.22	1.25	1.22	1.32
2015	1.21	1.20	1.19	1.13	1.13	1.03	0.96	1.04	1.09	1.13	1.13	1.14	1.11
2016	1.16	1.17	1.14	1.16	1.11	1.00	0.79	0.74	0.78	0.78	0.77	0.78	0.95

Source: National Statistics Office of Georgia

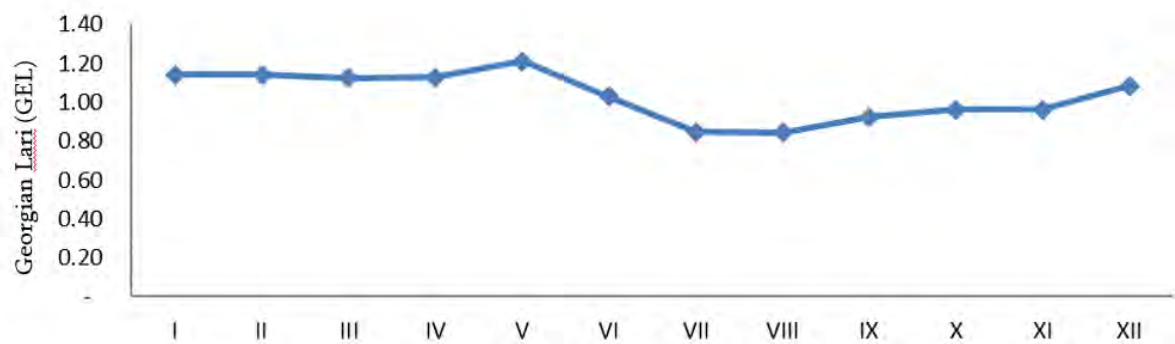
Table above shows that price on potato is increasing since 2012, reaching the highest price point in 2014; in 2015 and 2016, as compared to 2014, retail average price on potato had been declining.

Chart 2: Price Dynamics per Years



Source: National Statistics Office of Georgia

Chart 3: Price Dynamics per Months



2.1.2 Export – Import Analysis

Below we show export-import dynamic of potato and product prices and quantities:

Table 5: Export – Import Dynamics

Year	Import		Export	
	Thousand \$	Thousand tons	Thousand \$	Thousand tons
2012	6,563.0	30.1	96.8	0.4
2013	1,878.1	10.2	3,499.3	10.1
2014	7,031.2	30.5	901.8	2.5
2015	5,159.7	21.6	378.4	1.5

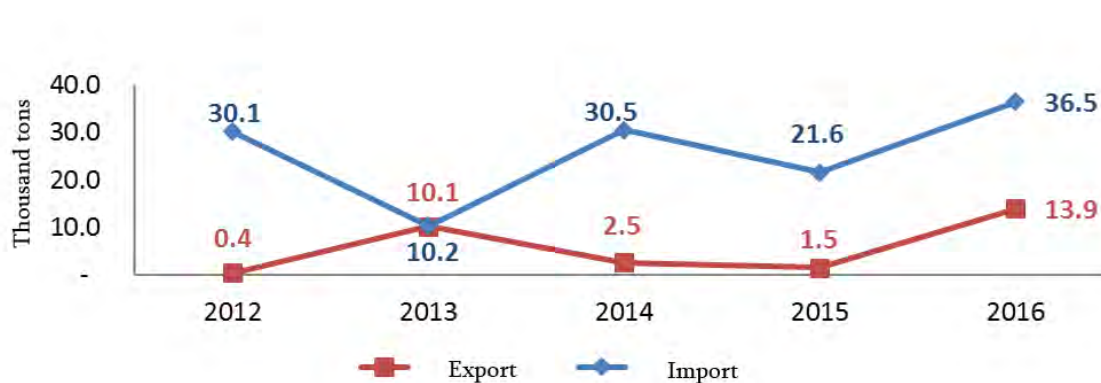
2016	5,348.5	36.5	1,985.5	13.9
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***Source:** National Statistics Office of Georgia*

The table shows that during recent years potato import volume fluctuates from 20 to 35 thousand tons, while imported potato's weighted share does not exceed 10% of local total potato consumption.

Main importer of food potato to Georgia is Turkey totaling to 90-100% of general import. Seed potato is generally imported from Germany and Netherlands.

Chart 5: Correlation of potato export and import per the years



***Source:** National Statistics Office of Georgia*

It is important to note about potato export that almost 100% of exported potato is delivered to Azerbaijan.

2.1.3 Structure of players in potato planting sector

Below data from GeoStat shows structure of players in potato planting sector:

Chart 6: Share of family farms and enterprises in general production



***Source:** National Statistics Office of Georgia*

These data explicitly shows that mainly family farms are acting in potato planting sector of Georgia.

2.2 Results of Focus Group interviews and phone interviews

Following results have been received from meetings with Focus Groups:

What is the volume of potato average annual harvest from one (1) hectare?

What is average annual harvest of potato from 1 hectare?

According to information received from surveyed farmers in target regions, potato productivity per harvest is determined by various factors, including:

- Irrigation or non-irrigation of plot of land – if a plot is irrigated, productivity is much higher than if a plot is not irrigated.
- Quality of seed potato – often farmers locally buy uncertified potato seed, price of which, subject to seed quality / grade, varies from 30 tetri to GEL 1.5. Respectively, application of cheap uncertified potato seed increases risk of seed infection (virus) and does not conform to quality and grade verbalized by seller. Increase or decrease of productivity

per hectare depends on respectively whether farmers use certified or uncertified seed material.

- Quality of used poison-chemicals and fertilizers – similar to seed potato, farmers often buy cheap fertilizers, and poison-chemicals of doubtful origination. They cannot or do not reach desirable effect at all, negatively affecting or drastically declining productivity in its turn.
- Observance of agri-technical standards and norms – due to low awareness about crop production, farmers frequently fail to sufficiently cultivate soil and planted areas. They also deliver insufficient quantity of fertilizers, sometimes, they over-deliver fertilizers in excessive quantity. Farmers fail to properly select types and proportions of fertilizers and poison-chemicals. Notably, in parallel to selection of proper quality, type and proportions of fertilizers and poisons-chemicals, it is utterly important to timely implement agritechnical arrangements, strictly observing agricultural timings, which is also often neglected by farmers.

Meetings with Focus Groups revealed that average annual harvest of potato per 1 hectare, subject to above factors, varies from 10 tons to 20 tons on land which is not irrigated, and from 25 tons to 45 tons on land which is irrigated.

What is the annual cost per one hectare?

The discussions with Focus Groups have revealed that potato planting cost per hectare is based on following factors:

- Irrigation or non-irrigation of plot of land (cost for irrigation).
- Quality of seed potato – price of seed potato varies according to quality. Often farmers buy local uncertified potato seed because it is cheap, price of which, subject to seed quality / grade, varies from 30 tetri to GEL 1.5. Costs also vary. If a farmer uses own seed material, meaning if he plants E grade potato and stores A grade seed potato from harvest for its sowing on next year, costs will be different for farmer for the first and second year.
- Quality of used poisons-chemicals and fertilizers – high quality fertilizer is expensive, while one of low quality is cheaper.
- Observance of agri-technical standards and norms – due to low awareness about crop production, farmers frequently fail to sufficiently cultivate soil and planted areas. They deliver insufficient quantity of fertilizers, sometimes, they over-deliver fertilizers in excessive quantity (mainly, ammonium nitrate).

- Agricultural machinery – farmers who possess own machinery bear less costs for plot cultivation, compared to those who rents machinery.
- Plot ownership – farmer’s costs per hectare increase by rent fee on rented land while farmer, possessing plot of land, shall only pay land fee.

Meetings with Focus Groups confirmed that cost per 1 hectare for potato production, subject to factors above, vary from GEL 5 thousands to GEL 10 thousands.

Which major challenges do you face in potato production process?

During field researches and Focus Groups discussions in target regions and municipalities, local farmers figured out problems, which substantially hinder potato planting operations and stable development of field. List of problems mainly coincide across municipalities and can be formulated as follows:

- Shortage and malfunctioning of agricultural machinery – Farmers said machinery of “Mekanizatori” LLC is not sufficient for cultivation of available agricultural arable in limited agricultural timings. Often machinery of “Mekanizatori” is malfunctioning; it fails to perform specific operation with good quality. Machinery owned by individual persons is not sufficient, in addition, it is amortized and outdated, meaning it is characterized with too low effectiveness and fails to perform works with good quality.
- Irrigation deficit – large plots of lands remain without irrigation, putting risky field under even higher risk. If this is a case, productivity per hectare decreases and, respectively, prime cost of produce increases.
- Expensive certified seed – farmers complained about high price of certified seed imported from Europe, so they have to buy local uncertified seed, which does not correspond to the quality, and standards verbalized by seller, and seed is often infected. It negatively affects productivity per hectare and increases the prime cost of potato.
- Quality of fertilizers and poison-chemicals – farmers mentioned that fertilizers and poisons-chemicals often fail to produce desired results and effect, and this is applied to both cheap and expensive products here.
- Absence of potato storage infrastructure – farmers underline deficit of storage infrastructure of contemporary standards, as one of the most important problems, which hinders development of field. 98% of potato stocks are stored at so-called “handicraft” warehouses / cellars, without temperature / humidity control, thus without observing humidity and optimal temperature modes essential for potato storage, making potato not

eatable. Potato loss due to improper conditions in average total to 15%, and the rate raises in severe winters and high freeze periods.

- Potato harvesting – problems connected to potato harvesting have been also underlined by farmers. Due to unavailability of special combiners for potato, farmers have to hire workers for potato harvesting. It has many negative sides. In particular: it requires substantial financial, labor and time resources and, in addition, permanent supervision and control of workers. Hiring workers during season is complicated too and very often potato cannot be harvested in proper timings if the area is large.
- Absence of modern technologies and proper knowledge – on meeting, farmers in Adigeni highlighted absence of modern technologies and low level of farmers' knowledge as one of the most important obstacles hindering development of field. They said that farmers sometimes do not know even the exploitation basics of agricultural machinery essential for maintenance and production of potato.
- Instable prices and unforeseeable environment in terms of import – farmers mentioned that unforeseeable environment and scarce information are the obstacles to proper planning. All farmers consider potato import as the great problem and require limitations on import from state.

In which conditions the produced potato is stored?

Absence of potato storage infrastructure – farmers underline deficit of storage infrastructure, which could conform to contemporary standards as one of the most important problems, hindering development of field. 98% of potato stocks are stored at so-called “handicraft” warehouses / cellars, without temperature / humidity control, thus without observing humidity and optimal temperature modes essential for potato storage, making potato not eatable. Potato loss due to improper conditions in average total to 15%, and the rate raises in severe winters and high freeze perdios.

Notably, opportunity to store food potato for winter directly depends on production spot height over sea level and on respective natural climate conditions. It also depends on harvesting period and varies according to regions and municipalities. For example, potato harvested in Marneuli municipality is not stored at all due to high temperature, 100% of harvest is sold immediately. 70-80% of potato harvested in August in Shida Kartli is also sold during same period; remaining is stored in handicraft cellars / warehouses. Potato harvest begins in September in Samtskhe-Javakheti, thus 80-85% of produced potato is stored, and remaining 15-20% is sold immediately after harvest.

Where and when do you sell potato?

Food potato

As already mentioned opportunities to harvest, store and sale potato in winter and spring depend on natural and climate environment of region and storage infrastructure and is thus different per municipalities:

- Both new (April-May) and early (summer months) potato is produced in Marneuli and Gardabani municipalities. Both are sold as harvested, or shortly after harvest.
- Harvest starts in August in Tetrtskaro and municipalities of Shida Kartli when early potato from Kvemo Kartli is already in shortage. At this time, the potato harvest is not yet began in Samtskhe-Javaketi region and Tsalka. Therefore, potato price is relatively high. At the same time, 70-80% of potato stocks are sold immediately after harvest, and remaining 20-30% is stored by farmers and sold during December-February.
- Potato harvest starts from end of August and lasts until end of October in Samtskhe-Javakheti region. In particular, potato harvest starts at the end of August and beginning of September in lower zones (Akhalsikhe, Aspindza, Adigeni), and from second half of September - in upper zones (Akhalkalaki, Ninotsminda). Farmers sell 15-20% immediately after harvest, store remaining 80-85% and sell until the end of May.

Seed potato

Main provider of uncertified local seed potato is Samtskhe-Javakheti region. Notably, Focus Groups in Adigeni mentioned that Guram Jinchveladze produces certified seed potato.

Farmers start selling seed potato from February until end of April.

As it was revealed from Focus Group discussions, farmers sell 100% of seed potato from warehouses. In case of food potato, wholesalers buy 90% as they visit the farmers and buy it onsite. Farmers deliver remaining 10% to Batumi, Tbilisi and Kutaisi markets to sell.

What is potato price per season?

According to farmers, food potato price significantly depends, among other factors, on productivity and volume of production during season. If the harvest is scarce, price is relatively higher, while if the harvest is rich, the price goes down. Price also depends on export volume to Azerbaijan. For example, export was launched to Azerbaijan from Georgia in April this year.

Potato price before export did not exceed 40-45 tetri, while as soon as the export started, prices have been increased and totaled to GEL 0,7 – 0,8 per kilogram.

While meetings with Focus Groups, we have also revealed that in last three years potato has been most expensive during season of 2014, and the cheapest – during season in 2016-2017 (before export to Azerbaijan started). According to farmers, the potato price dynamics per years is as follows:

- Potato price per months during season of 2014-2015 fluctuated from GEL 0,7 to GEL 1,2
- Potato price during season of 2015-2016 totaled to GEL 0.6 to GEL 0,8 per kilogram
- Potato price during season (until second half of April, then price increased due to export into Azerbaijan) was cheaper compared to two previous years and equaled GEL 0.3 – 0.5 per kilogram.

The farmers also mentioned that seed potato price is directly influenced by food potato price at current season. Particularly, if food potato is expensive, farmers increase planted areas and demand on seed potato goes upward. If food potato is cheap, price and demand on seed potato is declining. Farmers informed us about the following price dynamics on local A and B grade seed potato during last three years;

- 2015 - GEL 1.2-1.7
- 2016 - GEL 1-1.5
- 2017 – GEL 0.6-1.

What are the preferences of potato buyers?

Absolute majority of surveyed farmers noted that the wholesalers have the following preferences in terms of potato purchase:

- Potato should be well cleaned from soil
- Tubers should be of yellow color, oval shaped, with smooth surface
- Size of tubers should be of either medium or large

Which measures should be undertaken to improve the situation?

Potato farmers in Focus Groups underlined the most important issues:

- Solve an issue related to instable prices and unforeseeable environment in terms of import
- Arrangement of storage facilities in line with modern standards
- Handling agricultural machinery deficit issue and delivery of efficient equipment (necessity of potato combiners has been underlined among others)
- Solve irrigation problem.

Telephone interviewing

The specific phone interviewing was done to determine particular preferences of consumers in terms of potato purchasing in nine (9) cities (Tbilisi, Telavi, Gori, Akhaltsikhe, Kutaisi, Batumi, Zugdidi, Rustavi, and Marneuli). The aim of telephone interview was to determine requirements set up by potato consumers. Six hundred (600) respondents in total have been interviewed in target cities. Survey results are presented in table below.

Table 6: Survey findings:

Formulated requirements		% percentage distribution
Skin structure	Smooth	80 %
	Rough	20 %
Skin thickness	Thin	90 %
	Thick	10 %
Skin color	Yellow	32 %
	Red	36 %
	Dark brown	32 %
Tuber shape	Round	10 %
	Oval	41 %
	Lengthened	49 %
Tuber size	Small	0 %
	Medium	96 %
	Large	4 %
Insides	Yellow	51 %
	White	49 %
Taste	Sweet	12 %
	Neutral	88 %
Origination	Local	91 %
	Imported	9 %

Survey results obviously confirm that consumer prefers potato of local production, smooth, with thin skin, medium-sized, and neutrally tasted. If potato is new, preference is given to potato with white insides, which is easily peeled.

We have processed and analyzed information collected through telephone interviews and concluded that potato consumption can be summed up per main cities as follows:

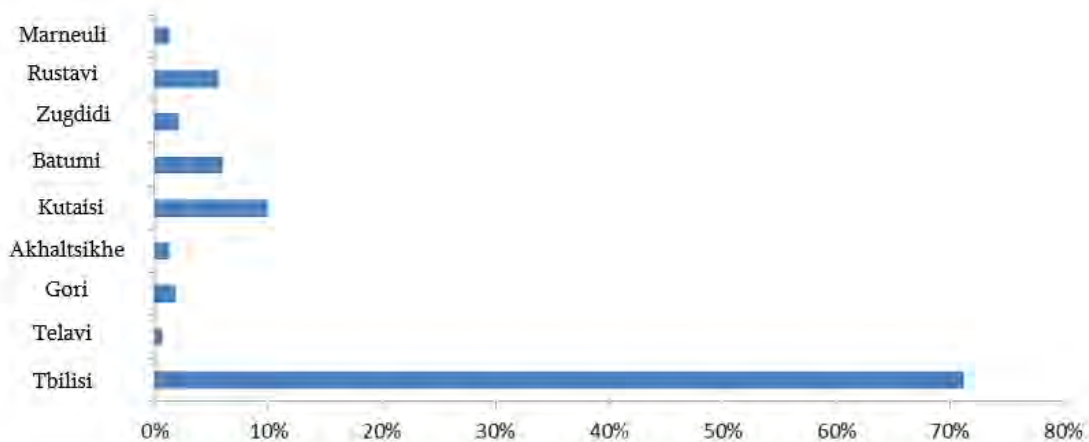
Table 7: Potato Consumption

City	Potato	Potato consumption			
		Kilogram per person annually	(ton) Annually	(ton) Monthly ¹	(ton) Daily
Tbilisi	For table	62.8	69,102.0	7,678.0	255.9
Telavi	New	20.9	23,034.0	7,678.0	255.9
Gori	For table	22.9	640.6	71.2	2.4
Akhaltzikhe	New	7.6	213.6	71.2	2.4
Kutaisi	For table	66.8	1,869.0	207.7	6.9
Batumi	New	22.3	623.0	207.7	6.9
Zugdidi	For table	45.4	1,270.4	141.2	4.7
Rustavi	New	15.1	423.4	141.1	4.7
Marneuli	For table	51.3	9,588.0	1,065.3	35.5
Tbilisi	New	17.1	3,196.0	1,065.3	35.5
Telavi	For table	47.4	5,782.8	642.5	21.4
Gori	New	15.8	1,927.6	642.5	21.4
Akhaltzikhe	For table	30.0	2,066.8	229.7	7.7
Kutaisi	New	10.0	688.9	229.7	7.7
Batumi	For table	72.6	5,445.8	605.1	20.2
Zugdidi	New	24.2	1,815.0	605.0	20.2
Rustavi	For table	51.6	1,290.5	143.4	4.8
	New	17.2	430.0	143.3	4.8

According to analysis, approximately 10-15% of demand on potato in cities is covered from villages through direct free-of-charge supplies (person providing potato to relatives or friends, etc.), meaning that part of the city population owns the plots in villages or have relatives (parents) sending them potato supplies. Remaining 85-90% is a real potential of market.

Chart 8: Average percentage consumption annually per cities

¹ Early potato is consumed mainly during three months, and potato for table – during remaining nine months.



Based on chart we can conclude that Tbilisi is on a leading position in terms of consumption. Significant portion is consumed in Kutaisi, Batumi and Rustavi too. At the same time, Tbilisi is considered to be a large point of sales of potatoes for other nearby markets (Rustavi, Mtskheta, nearby villages).

Table 8: Sales price on potato in cities per the seasons

City	Period	2016	
		Retail	Wholesale
Tbilisi	December - April	0.70	0.60
	May - August	0.60	0.55
	September – November	0.85	0.60
Batumi	December - April	0.80	0.60
	May - August	0.78	0.59
	September – November	0.77	0.57
Kutaisi	December - April	0.83	0.62
	May - August	0.88	0.66
	September – November	0.95	0.72
Gori	December - April	0.80	0.70
	May - August	1.00	0.80
	September – November	1.00	0.70
Telavi	December - April	0.80	0.70

	May - August	0.90	0.70
	September – November	0.80	0.70
Marneuli	December - April	0.70	0.50
	May - August	0.80	0.60
	September – November	1.00	0.80
Rustavi	December - April	0.65	0.49
	May - August	0.73	0.55
	September – November	0.99	0.74
Zugdidi	December - April	0.65	0.50
	May - August	0.73	0.55
	September – November	1.00	0.75
Akhalsikhe	December - April	0.68	0.51
	May - August	1.49	1.12
	September – November	0.71	0.53

3. Description of current conditions and trends on target market / sector

Based on an information generated and analyzed in the course of so called “desk” and field researches during preparation of this report, current conditions and established trends at potato planting target market / sector can be characterized in line with the below aspects and parameters:

3.1 Main drivers at market / segment and current market trends

Implemented survey confirmed that the main driver of the potato market is local consumer across Georgia including target regions and municipalities of the survey.

The official statistics sets forth that in 2012-2015, from 200 thousand to 260 thousand tons of potato was produced in total across Georgia. Share of main potato producer regions in total potato production volume totaled 89%, out of which the largest portion – 63% – is covered by Samtskhe-Javakheti region and remaining - by Kvemo Kartli (20%) and Adjara (6%).

3.2 Volume of local production, weighted shares of import and export

The table below highlights GeoStat data on volume of local production of potato, as well as import and export according to the years:

Table 9: Potato production, import and export according to years

Years	2012	2013	2014	2015
Local production (tons)	252	297	216	206
Imported potato (tons)	30.1	10.2	30.5	21.6
Potato export (tons)	0.4	10.1	2.5	1.5

The figures in table show that volume of imported potato is sometimes increasing and sometimes decreasing and totals to 10-14% of locally produced potato.

Officially reported export equals to 0.7% of the local production rate.

2.1. Major players on target market: suppliers and buyers

No wholesale auction, futures contracts or formal trade agreement practice exists on potato market. Four large (Dezertirebi, Navtlughi, Gldani and Digomi) and several small markets operate in Tbilisi. At all of them, the area for wholesale trade is marked where both wholesale and retail trade with **potato** is performed. Product supply pattern has been established as follows:

Imported products are delivered in trucks by wholesaler importers. Trading places are allocated separately, at distant corners of markets, or outside market territory. Wholesaler importers sell the potato in large lots to small wholesalers.

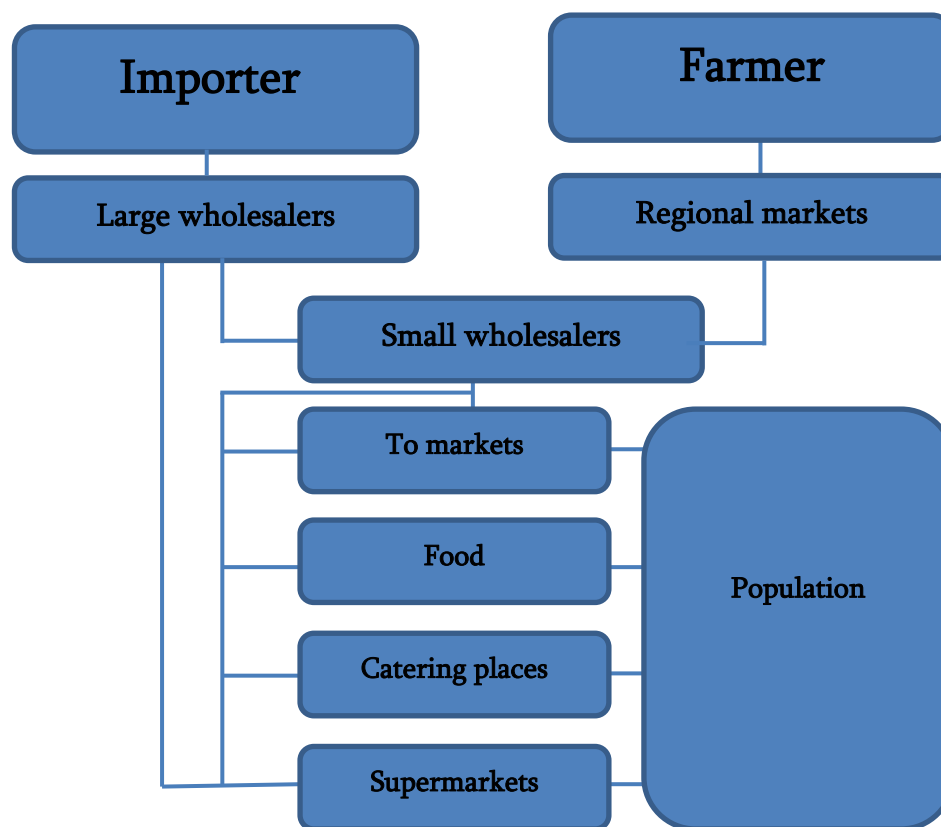
The small wholesalers are located at wholesale markets in all four main market where they perform both wholesale and retail trade. Small retail re-sellers of other markets buy product from them and deliver the product to remaining markets for further sale. **Potato** is purchased in wholesale markets also by shops, restaurants, private schools and population.

The local product is delivered from various regions of Georgia in trucks and vehicles by both wholesale and retail re-sellers. They purchase production from peasants and local re-sellers on regional markets.

Small wholesalers and farmers deliver potato to night markets, which are arranged from 10 PM to 6 AM on a territory of Navtlughi market where old stuff is sold during day. Identical trade is organized in front of Dezertirebi market, from 4 AM to 6 AM. Farmers also deliver their products to these markets where product is mainly purchased by retail re-sellers.

Peasants also sell potato of their own production in retail markets, but very few of them manage to do so as the best sale places are occupied by the small re-sellers.

Here we come with production movement pattern at markets of Georgia, as of today:



The main players in product distribution are importers and small wholesalers.

- **Importers** - Notably, none of importer organizations is permanently engaged in potato import to Georgia. Production is imported if there is shortage from time to time, thus it is unplanned. Importers are always changing. Therefore, it is impossible to forecast volume and frequency of product import, and market frequently faces shortage or surplus of potato, significantly influencing prices on its turn. Notably, deficit does not last long, counting for 10-14 days the longest, as potato is mainly imported from neighbor Turkey. Importers deliver goods to Batumi and Tbilisi in general, and from these places the potato is further distributed to other cities of the country by smaller retailers.
- **Small retailers** - Small wholesalers work in their towns and are generally engaged in distribution of different product from season to season. Small wholesalers are divided into two categories: wholesalers working on imported products and wholesalers working on local production.
 - Wholesalers working on imported products purchase product from large wholesalers, mainly in Tbilisi and Batumi, or deliver from Turkey by themselves. They ship products from Batumi and Tbilisi either in vehicles or in rented 7-15-ton trucks.
 - Small wholesalers working on local production buy products on large Sunday markets, sometimes they buy products in villages too. If this is a case, product is mainly

transported in vehicles, and the volume of product varies from 0.2 tons to 8 tons. Small wholesalers working on local production trade with various products on different seasons of year, but mainly supply the same market.

Main driver of market is volume of product available on market, either locally produced or imported. Volume of local production significantly preconditions market environment. In particular, in harvest-rich year, market prices are influenced by local production volume and quality. During year with scarce harvest, prices on market are determined by imported product.

We should consider local primary production as the main driver of market, the volume, quality and prime cost of which does shape market environment. Thus, stability of local market is formed by local production conditions.

Sellers agree to have equal prices on own products. Such factor strongly affects prices on products at city markets. Agreed price significantly exceeds producer's price. Difference between prices is seller's additional profit because retail consumer has to pay added cost for product whilst producer gains only ordinary profit percent. Thus, producer does not have possibility to increase production volume, decrease production costs and, respectively, support decline of prices on products in benefit of general population.

3.4 Market environment (legislative and social-economic patterns)

As of today, Food National Agency LEPL, operating under the Ministry of Agriculture of Georgia, monitors production quality control across country.

Governmental Order # 305 On Potato Cancer Control Regulation dated June 25, 2015: it sets forth rules for regulation of phytosanitary control and contamination prevention of potato cancer agent - *Synchytrium endobioticum* (Hereinafter – pathogenic), hazardous body, subject to quarantine, limitedly spread in Georgia.

Aim of this regulation is to implement long-term controlling arrangements to prevent contamination and ultimately stop disease. Regulation “On Potato Cancer Control” covers all business operators and family production subjects, which are engaged in primary production, processing and distribution of food and seed potato according to legislative rules. This regulation has been enacted since July 1, 2015.

Governmental Order # 302, On Approval of Potato Cyst Nematoids Control, dated July 1, 2016: it set forth phytosanitary control regulations and determines preventive arrangements to stop contamination by hazardous bodies, subject to quarantine – 2 types of potato cyst nematoids: Potato light nematoid *Globodera pallida* (Stone) Behrens (European population) and potato gold nematoid *Globodera rostochiensis* (Wollenveber) Behrens (European population).

Aim of regulation is to implement control arrangements towards potato nematoids and further eliminate infection. Regulation on Potato Cyst Nematoids Control covers food and seed production and distribution. Regulation is planned to be enacted in two stages: September 2017 and September 2018.

Government of Georgia offers supportive programs in two main directions to potato farmers and companies through the Project Management Agency:

- Preferential agri-credit
- Agri-production support program.

Purpose of preferential agricredit is to support agricultural primary production, processing, storage and sales processes by making the financial resources cheaper and more accessible for physical and legal entities. Under the frameworks of the project, enterprises involved in primary production, value chain and storage-sale of products receive the preferential agricredit / agricultural leasing from financial institutions for main and operational assets. The preferential credit shall be only used for purchasing the general assets and development of processing enterprise and primary production.

Agricultural production support program is being implemented under the Agricultural Modernization, Market Access and Resilience (AMMAR) project, funded by The International Fund for Agricultural Development (IFAD) and Global Environmental Facility (GEF). The program has been initiated by Ministry of Agriculture of Georgia and is implemented under the “Unified Agri-Project” by N(N)LE “Agricultural Project Management Agency”.

The objective of the program are as follows:

- Support improvement of quality and growth of productivity of primary production
- Support to maximal application of potential of existing gardens
- Support to enlargement and modernization of applicable processing and storing agri-enterprises
- Introduction of international standards and modern technology.

The program consists of components for co-funding of both individual farmers as well as processing enterprises and agricultural cooperatives.

- Component of primary production - funding of individual farmers, registered commercial legal entities and agricultural cooperatives. The terms for primary production financing are as follows:
 - The agency's matching contribution according to the program is 40% of total value of presented project, and the beneficiary's matching contribution – 60%.
 - Maximum amount to be allotted for primary production under the program to individual farmers or commercial entities (including agricultural cooperatives) registered according to the Law of Georgia “On Entrepreneurs” is USD 15 000 equivalent in national currency. The maximum amount to be allotted to the agricultural cooperatives is USD 150 000 equivalent in national currency. In addition to that, the matching contribution to cooperative shall be allotted in line with number of cooperative members, maximum USD 15 000 equivalent in national currency per each member.
- Value chain component – funding of operating processing and storing enterprises and agricultural cooperatives. Co-funding terms for value chain are as follows:
 - The matching contribution from the Agency according to the program shall be equal to 40% of the total value of presented project, while the beneficiary shall contribute 60%.
 - Maximum amount to be allotted to the value chain enterprises, legal entities (including agricultural cooperatives) under the program shall be USD 100 000 equivalent in national currency.

Target geographic area for program implementation covers all municipalities and self-governed cities except the following self-governed cities: Tbilisi, Rustavi, Batumi and Poti.

3.5 Market connections for local potato producers / products to main regional and central Tbilisi markets

Survey evidenced that as of today the regulated system, which could offer qualified information to traders or population about volumes and prices of products available at markets, does not exist at all. Traders determine prices and overall situation at markets according to current condition existing at the main market of respective city on that particular moment. Information is very rarely corrected according to current conditions available in production region. Therefore, 2-3 next days are foreseeable for traders. It is practically unfeasible to make forecasts

and set the respective action plans because it is impossible to preliminary forecast volume and prices on both local and imported production on market.

Several international organizations attempted to establish informational systems to support interrelations between the producers and consumers.

For example, Sadakhlo Informational Center has been established under GTZ project of Food Security, Regional Cooperation & Stability in South Caucasus. Project mainly aimed to support development and intensification of trade relations among Georgia, Azerbaijan and Armenia through informational centers. According to the project idea, Sadakhlo Informational Center should have become mediatory chain among producers, buyers and sellers. The informational base including information about product to be sold was set up. Database mainly focused on support of agricultural products sale. Identical centers have been set up in Armenia and Azerbaijan too.

Unfortunately, the weak points of this idea hindering its successful completion became obvious on initial phase. In particular, information about product for sale, available for interested person at informational center, failed to sufficiently motivate the buyer to purchase product. For example, person interested in purchasing potato received information that the definite seller was selling potato at definite price in Marneuli. The potential buyer then, if interested, used to preliminary visit Marneuli, made research on prices not only with the specific seller but also across whole Marneuli market, and only after that could make decision about buying product from definite seller. In addition, prices sometimes changed very rapidly on market – prices drastically drop on definite product if 2-3 trucks loaded by this product would enter the Sadakhlo market. Informational center had already fixed higher – thus wrong - prices on this product. Due to such miscommunication, unsatisfied clients had frequent claims.

Accordingly, the main function of informational center was to inform the potential buyer about general information about approximate prices on products available across region. Specific information about prices and products was neither updated nor valid.

The main obstacle to validity and stability of such structures is that neither farmers nor buyers were ready to pay fee for service provided by informational center. Therefore, such structures could only last until donor's contribution was available. They stopped operations as funding ended.

An identical project was also implemented by CHF GEII - Georgia Employment and Infrastructure Initiative. In particular, 3 Informational Centers have been opened in Tbilisi, Kutaisi and Akhaltsikhe. The Informational Centers unified information about farmers

producing agricultural products as well as an information about products produced by farmers. Informational Centers aimed at establishment of connections of producer farmers with buyers of products. However, this project also failed to last long, it was closed quite shortly.

3.6 Recommendations targeted at mitigation of hindering factors in potato market / sector within the target regions / municipalities and solving urgent needs of potato producer farmers

The following arrangements are recommended for potato planting development and efficient application of available resources across Georgia:

Increase potato farmers' awareness and education level, establishment of efficient educational and informational consultancy system

As already noted, one of the most important obstacles towards sector development is low level of potato farmers knowledge. State should play the main role in mitigation of current situation; it should establish the effective educational and informational consultancy system for increasing the level of awareness among potato farmers through close cooperation of the public and private sectors. The vocational institutions, high educational institutes, sectoral associations, respective NGOs and business consultancy companies should be actively engaged in the process.

Seed potato problems

As already noted, usage of low quality, application of uncertified seed material by potato farmers causes low productivity. Accordingly, farms producing certified seed materials should be necessarily popularized and promoted. The special funding and subsidy loans program should take start to encourage purchase of high quality seed material, either of foreign or local production, by potato farmers.

It should be also noted that potato seed (Superelita and Elita) is not produced in Georgia by appropriate technologies. There are numbers of free varieties in the world (varieties that can be produced without any license fee) which are very popular in Georgia too, and farmers like them also (Marphona, Agria, Pikasi, Kondori, Amaroza, etc.). Respectively, it is essential to create organization in the country, which will produce potato seed (Superelita and Elita grades) locally, through application of respective technologies and pilot farms. This way, not only farmers' demand will be met in the country, but also the export production will be produced.

Limited access to financial resources

The survey obviously evidenced that the majority of potato farmers do not have information about the state programs targeted at preferential funding of potato farmers. More intense and effective informational campaign should be implemented about the state support programs to increase engagement of the target farmers.

Limited access of potato farmers to essential materials and equipment. Limited access of potato farmers to the markets

These two issues can be solved simultaneously. In particular, consolidation of the farmers within the cooperatives will secure the possibility to jointly purchase various equipment and materials. Joint operation will also improve the access to the required materials and equipment (materials will be purchased at cheaper price, the time will be saved).

On the base of large cooperatives, potato consolidation centers establishment should be necessarily facilitated, which will be equipped with modern storage facilities and respective infrastructure. Cooperation and joint operation will enable farmers to have product stocks and logistics opportunities for entering more perspective markets and perform export of production.