Agriculture and Rural Development in Western Georgia: A Baseline Assessment

Tbilisi, Georgia

December 2014

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Cover map source: National Statistics Office of Georgia, *Maps of Municipalities of Georgia*.

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Abbreviations and Acronyms

ACDA	Agricultural Cooperatives Development Agency
ENPARD	European Neighbourhood Programme for Agriculture and Rural Development
GDP	Gross Domestic Product
GEL	Georgian Lari
GFA	Georgian Farmers Association
GORBI	Georgian Opinion Research Business International
IDP	Internally Displaced Person
ISET	International School of Economics at Tbilisi State University
ISET-PI	ISET Policy Institute
LSMS	Living Standards Measurement Study (World Bank)
NGO	Non-Governmental Organization
PCA	Principal Component Analysis
PPS	Probability Proportional to Size

Executive Summary

This report assesses a wide variety of topics related to agriculture and rural development in seven districts of western Georgia: Lanchkhuti, Ozurgeti, and Chockhatauri in Guria, Khobi, Senaki, and Abasha in Samegrelo-Zemo Svaneti and Tsageri in Racha-Lechkhumi and Kvemo Svaneti.

Households across these seven districts were surveyed as part of the field research for the Cooperation for Rural Prosperity in Georgia project, which is being implemented in the framework of the European Neighborhood Program for Agriculture and Rural Development (ENPARD Georgia).

The main findings of the baseline assessment are as follows:

- Most households in western Georgia are engaged in agricultural pursuits. The vast majority (92%) of households across the districts considered were involved in agricultural production to some degree in 2013. Even the majority of households living in apartment blocks were involved in agricultural production.

- While there is indeed much heterogeneity across households (and across districts) with regard to household composition and employment status, total land ownership and land usage, crop mix, production volume, and marketing behavior, the districts considered can be classified as highly agrarian.

- In the average household, those who are economically active are typically either primarily or secondarily self-employed in agriculture. While employment in public and private service provision is also important, few household members are employed in manufacturing or industry positions.

- The vast majority of households across the surveyed districts owned or used land in 2013 (96%). However, even when considering all land plots together, access to or ownership of land is relatively limited (about 0.75 hectares on average across all households).

- With regard to agricultural production, corn/maize seems to be the commodity most commonly produced by households across the surveyed districts, followed closely by hazelnuts. Only a small proportion of households are involved in agricultural production for the market, though this depends critically on the commodity (and district) in question. For instance, hazelnuts and bay leaf are likely to be major cash crops in western Georgia.

- Those households which do market their agricultural products do so primarily through local traders, by selling their products to consumers at the farm gate, or by directly transporting their products to local wholesale markets, though there is also substantial variation in marketing practices across commodities and districts. Few households currently market their agricultural products through cooperatives or directly to retail markets or processors.

- At the time of survey administration, very few respondents indicated that they or a member of their household were members of agricultural cooperatives, though many respondents indicated that they or someone in their household was interested in being a member of a formally-registered agricultural cooperative. This figure was even higher when the respondent was aware of the initiative to support the development of agricultural cooperatives in Georgia.

- Many household members are already cooperating informally, either through labor sharing arrangements (for instance, during land preparation and harvest periods) or through joint agricultural production more broadly. However, the majority of households engaged in no informal agricultural cooperation.

- There is limited seasonal migration to neighboring countries (e.g., Turkey) for agricultural work. The likelihood that the average household across the project districts had a household member temporarily abroad for work, study, or for other activities was only 6% in 2013.

- The percent of households classified as internally displaced varied considerably across districts, with nearly 0% of households in Chokhatauri having such a status and about 13% of households in Senaki being classified as internally displaced.

- Across all districts considered, about 34% of households had at least one household member who applied for a loan in 2013. There was much variation in loan application behavior across districts, with only 17% of households in Chokhatauri applying for a loan in 2013, compared to 48% of households in Khobi. Among those who applied, the vast majority received the full amount of the loan sought. Relatively few of the loans seemed to be related to agricultural activity (e.g., primary production or processing), even though there was a cheap agricultural credit program in effect during 2013. When asked why no one in their household applied for a loan in 2013, respondents cited a fear of not being able to pay back a loan, simply having no need for a loan, facing too high of an interest rate, or not liking to be indebted as the main reasons.

1 Introduction

Much of the wine, tea, and fresh fruits and vegetables found across the Soviet Union came from Georgia. At least on paper, Georgia had one of the highest levels of agricultural productivity among all constituent republics. Yet after the collapse of the Soviet Union, Georgia experienced one of the most severe output collapses in recent history. Agricultural productivity plummeted, partly because of the output contraction and partly due to the movement of labor into the agricultural sector or migration abroad. Still today, more than two decades after independence, measured aggregate agricultural labor productivity has yet to recover to its pre-transition level (Pellillo, 2012). Georgia remains one of the poorest countries in the region.

One possible explanation for low agricultural productivity is the high degree of fragmentation in land ownership and land use. The vast majority of agricultural production takes place on small plots of family-owned land (which are often less than a hectare in size). Such fragmentation partly stems from the land reforms undertaken shortly after independence, when the state and collective farms were broken into land plots for distribution to hundreds of thousands of households. It also arises from the relatively little land consolidation which has taken place since then.

Because of the fragmentation of land ownership and use, the product and input volumes are quite small while the transaction costs associated with input procurement and product marketing are particularly high. Early land reform was undertaken in order to ensure food security during a time of severe economic distress, not necessarily to organize the sector in a way that economic activity would be internationally competitive or have economies of scale in input and product marketing.

In recent years, the Georgian government, international donors, non-governmental organizations, and private investors have shifted their attention to the agricultural sector and rural economy. This represents an important turning point, especially considering that nearly half of the population in Georgia resides in rural areas (46% in 2014[1]) and that most 'jobs' in the country are registered as being in the agricultural sector (52% in 2013[2]). While it remains to be seen which agricultural and food policies are most appropriate for the Georgian context, as well as which policy instruments are most cost-effective, an array of new initiatives are currently under way.

Most recently, with the support of the European Union through the European Neighborhood Program for Agriculture and Rural Development (ENPARD Georgia), there has been much focus on supporting the development of agricultural cooperatives across the country. The Law of Georgia on Agricultural Cooperatives was passed in 2013 and the Agricultural Cooperatives Development Agency (ACDA), a legal entity of public law established within the Ministry of Agriculture, was launched shortly thereafter. Alongside support to the Ministry of Agriculture and the Agricultural Cooperatives Development Agency, ENPARD Georgia also enables 16 non-governmental organizations to support the development of agricultural cooperatives, primarily by providing financial and technical assistance to selected cooperatives which have developed satisfactory business plans.

The general idea is that cooperative development will help smallholder farmers and their families achieve economies of scale in production, input procurement, or agricultural product marketing,

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[1] According to the National Statistics Office of Georgia.
[2] Calculated by the authors based on the 2012 Integrated Household Survey administered by the National Statistics Office of Georgia.

which would otherwise not be attained given relatively small product and input volumes and considerable transaction costs in increasingly modern agricultural value chains. While many challenges remain, this initiative holds much promise for learning about what works in organizational development in Georgian agriculture.

Below, we put forth a comprehensive assessment of agriculture and rural development across the seven districts in which one of the ENPARD consortia is actively involved in supporting the development of agricultural cooperatives. While we assess a variety of topics pertinent to cooperative development, we also put forth snapshots of agricultural practices and employment across the seven districts more broadly.

2   Baseline Household Survey

2.1   Purpose and Objectives of the Survey

In order to establish an evidence base about economic behavior and organization in the agricultural sector and rural economy of western Georgia, as well as to track changes over time to key outcomes like household incomes, agricultural production levels, and household membership in agricultural cooperatives over the project area (from 2014-2018), a household survey was conducted across the seven project districts.

When designing the household survey questionnaire, we aimed to incorporate indicators that are important for the project, but also those that provided us with a more nuanced understanding of economic behavior and economic conditions at the household level.

We primarily asked respondents questions about their household. However, we also asked them a handful of questions about their individual attitudes, preferences, knowledge, and views, mostly in order to develop a suggestive (though not representative) understanding of specific issues facing themselves and their households.[3] Importantly, there may be much heterogeneity in responses when considering gender, age, employment, or income differences, and this is an important area to explore for future research using this survey dataset as well as for additional field research undertaken across the project districts/municipalities.

2.2   Survey Areas

The Cooperation for Rural Prosperity in Georgia project is currently under way in seven districts/municipalities in western Georgia: Lanchkhuti, Ozurgeti, and Chockhatauri in Guria, Khobi, Senaki, and Abasha in Samegrelo-Zemo Svaneti and Tsageri in Racha-Lechkhumi and Kvemo Svaneti. These study areas are shown in the figure below (Figure 2.2.1.).

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[3] While the latter questions would have best been asked in a separate survey questionnaire and sampling frame designed to produce information representative of *individuals* across the project area, given the cost and time of survey administration it was decided to combine the two components into one survey questionnaire.

Figure 2.2.1: Map of Districts/Municipalities of Georgia

Map source: National Statistics Office of Georgia

2.3   Brief Descriptions of the Survey Regions and Districts/Municipalities

2.3.1   Guria

Guria is the smallest region in Georgia, covering only 2.9% of the entire territory. Guria is also home to only 3.1% of the entire population of the country. Guria contains three districts/municipalities (Chokhatauri, Lanchkhuti, and Ozurgeti), a shore along the Black Sea, and mountains in the Lesser Caucasus range.

Agriculture is the main contributor to gross domestic product (GDP) in Guria (26.4%, or about 116 million GEL in 2011)[4] and also employs the majority of the labor force in the region (56%), but most of the workers in the sector are self-employed or working for their household as subsistence or semi-subsistence farmers. The primary agricultural commodities in Guria are corn, hazelnuts, citrus fruits, tea, and other fruits. Across all regions of Georgia, Guria ranks 4th in corn production. Measured land productivity for corn is also highest in Georgia at 4.2 tons per hectare. [5]

While Samegrelo-Zemo Svaneti is famous for its hazelnut production, Guria is also a major producer, comprising 23% of the total volume of production in Georgia in 2013 with 9,000 tons of nuts. And while Achara holds first place for the total volume of citrus fruit production, Guria still comprises 17% of the total production volume in the country (with about 19,000 tons of fruit). Tea production in Guria only comprised 12% of the entire country's tea leaf production volume in

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[4] Source: Guria Regional Development Strategy for 2014-2021, p. 14 (Ministry of Infrastructure and Regional Development [2013]); National Statistics Office of Georgia (2011)

[5] Source: National Statistics Office of Georgia, Agriculture in the Regions of Georgia (2013)

2013. Guria is also home to major livestock production, and is one of the top 5 regions when it comes to the number of goats (8% of the country) and pigs (5% of the country). Fish farming is also a promising new development in the region.

Tables 2.3.1 and 2.3.2 provide some additional facts and figures about the districts in Guria and allocations of agricultural land:

Table 2.3.1: Facts and Figures about Districts in Guria				
District	Population[6] (as of Jan. 1, 2014)	Total Area (in hectares)	Agricultural land[7] (in hectares)	Agricultural land (% total area)
Chokhatauri	22,500	82,500	6,115	7.2%
Lanchkhuti	38,600	53,300	22,228	41.7%
Ozurgeti	77,000	64,500	27,672	42.6%

Table 2.3.2: Uses of Agricultural Land across Districts in Guria					
District	Agricultural Land Owned by the Private Sector (% agricultural land)	Arable Land (in hectares)	Meadow Land (in hectares)	Pasture Land (in hectares)	Perennial Crop Land (in hectares)
Chokhatauri	100%	2,169	251	294	3,401
Lanchkhuti	56%	12,400	424	3,574	5,830
Ozurgeti	73%	5,849	317	5,857	15,647

2.3.2 Samegrelo-Zemo Svaneti

Samegrelo-Zemo Svaneti region is also in western Georgia, to the north of Guria. The region is rather large, covering 10.8% of the entire territory of Georgia. More than 10.6% of the population of Georgia calls this region home. Samegrelo-Zemo Svaneti also has the highest number of households registered as internally displaced persons (IDP), which represents 18.7% of the total IDP population in Georgia. This is primarily because of sharing a regional border with Abkhazia, one of the breakaway regions of Georgia. Samegrelo-Zemo Svaneti consists of eight districts/municipalities, including three of the districts/municipalities surveyed here (Abasha, Khobi, and Senaki).

Like the other regions considered in this report, the agricultural sector is a major contributor to both GDP and overall employment. In 2011, the agricultural sector comprised 20% of the region's GDP (about 300 million GEL). The agricultural sector of Samegrelo-Zemo Svaneti comprises a large proportion of the entire country's agricultural GDP at 14.1%. Most rural families are involved in agriculture, but are again self-employed or working for the household in subsistence or semi-subsistence production. One of the main challenges with agricultural production in the project districts from this region (Abasha, Senaki, and Khobi) is the damaged drainage system.

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[6] Source: National Statistics Office of Georgia (2014)

[7] Source: Ministry of Agriculture of Georgia (2013)

The main agricultural commodities produced in this region are corn, fruit, nuts (especially hazelnuts but also walnuts), citrus fruits, tea, vegetables, honey, and fish. Samegrelo-Zemo Svaneti is the main hazelnut producing region of Georgia, comprising nearly 52% of the country's total production volume. It is also a major tea producer, with about 55% of the country's tea production coming from this region.

Samegrelo-Zemo Svaneti is in particular an important corn producer (the second in the country, comprising 26% of the total production volume). Further, fruit production is also quite high (22% of total production volume in 2013). Samegrelo-Zemo Svaneti follows Achara and Guria in citrus production (6% of the total production volume in Georgia).

Further, Samegrelo-Zemo Svaneti is also the main livestock producing region in Georgia, with 23% of the country's cattle mooing here. After Kakheti, Samegrelo-Zemo Svaneti also has a high number of goats (20% of the total across Georgia). Poultry production is also important (17% of the country). It's also a leading location for pig breeding in Georgia, with 28% of the country's pigs rolling about in the mud in this region alone. Lastly, beekeeping is most developed in this region, with nearly 32% of the bee houses in Georgia existing in this region alone.

Tables 2.3.3 and 2.3.4 provide some additional facts and figures about the districts in Samegrelo-Zemo Svaneti and allocations of agricultural land:

Table 2.3.3: Facts and Figures about Districts in Samegrelo-Zemo Svaneti				
District	Population[8] (as of Jan. 1, 2014)	Total Area (in hectares)	Agricultural land[9] (in hectares)	Agricultural land (% total area)
Abasha	27,500	32,200	19,951	62%
Khobi	41,500	65,900	28,509	43.2%
Senaki	52,200	52,100	24,260	46.5%

Table 2.3.4: Uses of Agricultural Land across Districts in Samegrelo-Zemo Svaneti					
District	Agricultural Land Owned by the Private Sector (% agricultural land)	Arable Land (in hectares)	Meadow Land (in hectares)	Pasture Land (in hectares)	Perennial Crop Land (in hectares)
Abasha	61%	12,331	0	5,163	2,457
Khobi	53%	13,570	0	9,462	5,381
Senaki	48%	11,594	9	7,897	5,184

2.3.3 Racha-Lechkhumi and Kvemo Svaneti

The region of Racha-Lechkhumi and Kvemo Svaneti is in northwestern Georgia. It is one of the smallest regions of Georgia, covering only 6.6% of the entire territory and consisting of only 1% of the population (which is the lowest regionally in the country). This region consists of four

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[8] Source: National Statistics Office of Georgia (2014)
[9] Source: Ministry of Agriculture of Georgia (2013)

districts/municipalities, including that of Tsageri, which is one of the survey districts considered here. Being in the Greater Caucasus range, all of the districts are rather mountainous, which has rather important implications for agriculture across the region.

Perhaps because of this, and also due to limited market access, Racha-Lechkhumi and Kvemo Svaneti is one of the poorest regions in Georgia. Most of the population in this region is involved in agriculture to some extent, and most of the workers are self-employed or are working for their household as subsistence or semi-subsistence farmers.

The primary agricultural commodities in Racha-Lechkhumi and Kvemo Svaneti are corn, beans, grapes, potatoes, and fruit. Farmers typically seed corn and beans together on the same land plots. Grape production appears to be one of the main income-generating agricultural activities and the region is becoming well-known for its specific grape varieties (e.g., Mujuretuli, Aleksandrouli, Rachuli Tetri, Ojaleshi and Usakhelauri), which receive higher prices than typical Kakhetian grape varieties like Rkatsiteli, Mtsvane, or even Saperavi.

Given the mountainous nature of the region, there is a much higher level of livestock production due to the greater composition of pasture rather than arable land (see Table 2.3.6). It is also worth mentioning that fisheries (especially trout) have become quite developed in Racha-Lechkhumi and Kvemo Svaneti and producers in the region have already found a niche market in western Georgia.

Table 2.3.5: Facts and Figures about Tsageri (Racha-Lechkhumi and Kvemo Svaneti)				
District	Population[10] (as of Jan. 1, 2014)	Total Area (in hectares)	Agricultural land[11] (in hectares)	Agricultural land (% total area)
Tsageri	15,300	75,600	13,353	36%

Table 2.3.6: Uses of Agricultural Land in Tsageri (Racha-Lechkhumi and Kvemo Svaneti)					
District	Agricultural Land Owned by the Private Sector (% agricultural land)	Arable Land (in hectares)	Meadow Land (in hectares)	Pasture Land (in hectares)	Perennial Crop Land (in hectares)
Tsageri	17.7%	2,401	1,436	8,510	1,006

2.4 Research Methodology

Prior to initiating the field work for the quantitative household survey, our project team conducted focus groups and semi-structured interviews with both commercially-oriented and subsistence farmers in selected municipalities across western Georgia. These focus groups and individual interviews informed how we developed the baseline survey questionnaire and helped us to

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[10] Source: National Statistics Office of Georgia (2014)
[11] Source: Ministry of Agriculture of Georgia (2013)

identify existing knowledge gaps. In particular, we held our first focus group in Ozurgeti on February 10, 2014, and then held additional focus groups in Lanchkhuti, Khobi, Abasha, and Senaki from March 22-23, 2014.

To be sure, the individuals taking part in these focus groups were not randomly selected and were often highly knowledgeable about agriculture in their respective regions. Thus, these focus groups can best be viewed as consisting primarily of key informants and commercially-oriented farmers.

Upon completion of the first draft of the survey questionnaire, the field research team announced a request for applications for the implementation of the baseline survey questionnaire. We selected Georgian Opinion Research Business International (GORBI) in late March 2014. Staff from GORBI and ISET-PI then collaborated on the translation, pilot testing, and restructuring of the survey questionnaire, which went through two iterations between April and June 2014.

The training of enumerators took place in June. Collection of survey data by 37 enumerators took place from June to August 2014. Each enumerator conducted 76 interviews on average, with the number of interviews conducted ranging from 1 to 140. Prior to administering each survey, key respondents were informed about the purpose of the survey and were assured that their responses would be kept confidential. A key respondent knowledgeable about the household's overall economic situation and activities was asked to provide information about themselves and the members of their household. The average time for survey administration was 46 minutes.

After the data were processed by GORBI with feedback from the field research team (from August-October 2014), the field research team at ISET-PI then analyzed the data for this baseline assessment report.

2.5   Sampling Design

The following description of the sampling design was provided by the GORBI team.

A two-stage, stratified cluster sampling system was used by GORBI to select households for the survey. Clusters were selected for the first stage using the probability proportional to size (PPS) selection method. For the second stage, households were selected from within these clusters using the random walk method. In order to decrease the cost of transportation, it was decided to conduct 20 interviews per sampling point.

2.5.1   Stratification Diagram

The following administrative and geographic characteristics were used to design the stratification diagram:

- Administrative: The project is in progress in seven districts/municipalities in western Georgia; these administrative divisions were used as the first qualifier for stratification.
- Urban/rural: The selected administrative divisions cover both urban (town) settlements and villages, and in order to capture potential differences in economic activities, access to infrastructure, etc., urban and rural differences were considered.

The 2002 census of Georgia was used as the sampling frame. The population distribution in surveyed areas, according to this census, was as follows:

Table 2.5.1: Population/Household Distribution in Surveyed Areas

According to the 2002 Census

District	Urban/Rural	Population	Households
Lanchkhuti	Town	4,331	1,171
	Village	17,162	4,638
Ozurgeti	Town	14,952	4,041
	Village	26,947	7,283
Chokhatauri	Town	1,183	320
	Village	11,548	3,121
Tsageri	Town	1,084	293
	Village	7,633	2,255
Abasha	Town	3,494	944
	Village	11,843	3,201
Senaki	Town	15,340	4,146
	Village	12,556	3,530
Khobi	Town	2,997	810
	Village	18,575	5,020

2.5.2 Sampling Formation

400 interviews were conducted in each district. As shown above, there is a radical asymmetry between town and village settlements. It was therefore deemed unacceptable to distribute the sampling sizes between the two; the small number of samples available in the town settlements would not yield reliable results. In order to equalize the two sample types, interview distribution was determined based on square footage of each household. The sampling distribution based on this approach is as follows:

Table 2.5.2: The Sampling Distribution according to Rural/Urban Areas

District	Urban/Rural	Sampling Points	Total Interviews
Lanchkhuti	Town	7	140
	Village	13	260
Ozurgeti	Town	9	180
	Village	11	220
Chokhatauri	Town	5	100
	Village	15	300
Tsageri	Town	5	100
	Village	15	300
Abasha	Town	7	140
	Village	13	260
Senaki	Town	10	200
	Village	10	200
Khobi	Town	6	120
	Village	14	280
Town (total)		49	980
Village (total)		91	1,820

2.5.3 Calculation of Sampling Weights

During the field work, contact sheets displaying the results of each attempt to conduct an interview were filled out by the enumerators. Based on these data, the selection weight was calculated using the following formula:

$$W_h = \frac{1}{P_i}$$

where W_i is the weight of the interviewed household in sampling point i and P_i is the probability of conducting an interview in sampling point i.

The probability of conducting an interview, P_i, is then calculated as follows:

$$P_i = \frac{P_{ci} \times P_{hi} \times P_{ii}}{P_{ei}}$$

where P_{ci} is the probability of cluster selection, P_{hi} is the probability of household selection, P_{ii} is the probability of conducting an interview, and P_{ei} is the probability of meeting the household.

2.6 Survey Questionnaire Design

The design and pilot testing of the survey questionnaire were jointly undertaken by GORBI and ISET-PI staff. The final survey questionnaires and show cards are available as an online appendix (see Section 8). We put forth a discussion of lessons learned from designing, pilot testing, and implementing the survey in Section 5.

3 Main Findings

While the household is the primary sampling unit, by surveying 2,802 key respondents about their households, we also received information about the migration behavior, employment, sources of information, and time spent on various activities for 9,611 individuals.[12]

All of the findings presented below were estimated using the survey weights described in the section above and were rounded to the nearest whole number. Most of the results about individual members of the household are aggregated to the household level in order to allow for comparisons across households and districts, as well as to allow for the application of the survey weights. When unreported, calculations of the confidence intervals for each of the estimates produced in this report are available from the authors upon request.

For some sections, the results are valid up until the end of 2013, as we asked key respondents specific information about year 2013 (e.g., agricultural production and marketing, household income sources, etc.), though for other sections the results were more recent (e.g., those questions about attitudes and knowledge, current labor market behavior, etc.), so that we could receive a better picture of their labor market activities and behavior. We make the temporal distinction throughout this report.

The baseline survey dataset upon which the following analysis relies consists of more than 2,000 variables. This implies that a considerable amount of additional analysis can be conducted given demand. What we present below are the most interesting (and most reliable) results from this dataset.

3.1 Demographic Information

The vast majority of households across the project areas are living in houses (93%), while 7% of households are living in apartments. Figure 3.1.1 displays these figures by district. Around 74% of households reside in rural areas. Differences across districts are illustrated below (Figure 3.1.3), and follow the sampling design and application of final sampling weights.

It should be noted that for the Georgian translation of the survey questionnaire, village (*sopeli*) refers to a 'rural' area, while city (*kalaki*) refers to an 'urban' area.

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[12] In this report, we will distinguish between the results from the interview with the key respondent about the household, versus the results when considering all household members in total. It should be noted, however, that all questions were directed to a key respondent, though other household member may also have been in attendance during the interview (which we requested the enumerator to indicate when that was the case).

Figure 3.1.1: Type of Residence

(% of Households)
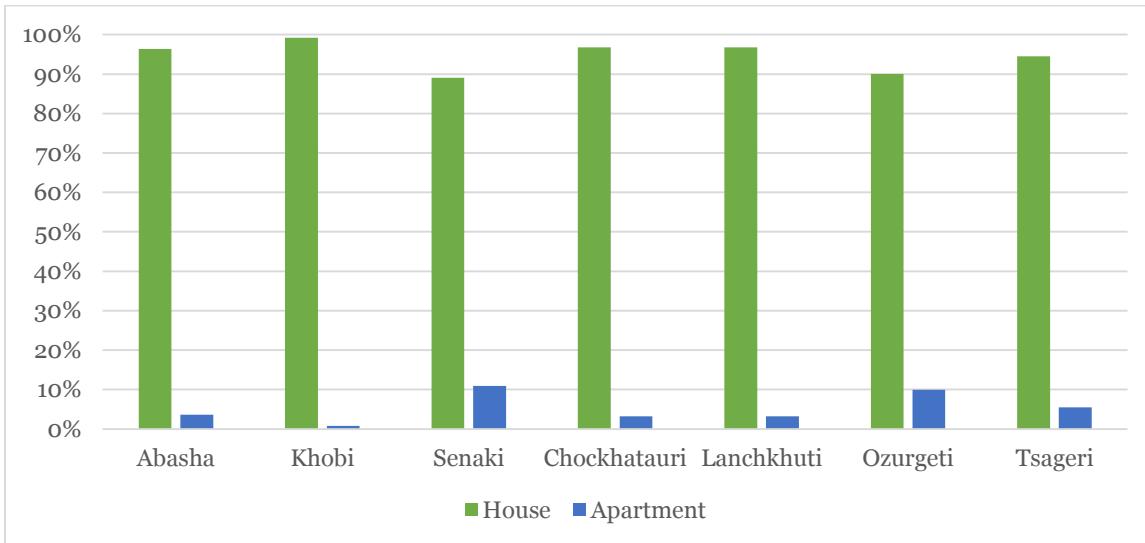
Figure 3.1.2: Households in Rural and Urban Areas

(% of Households)
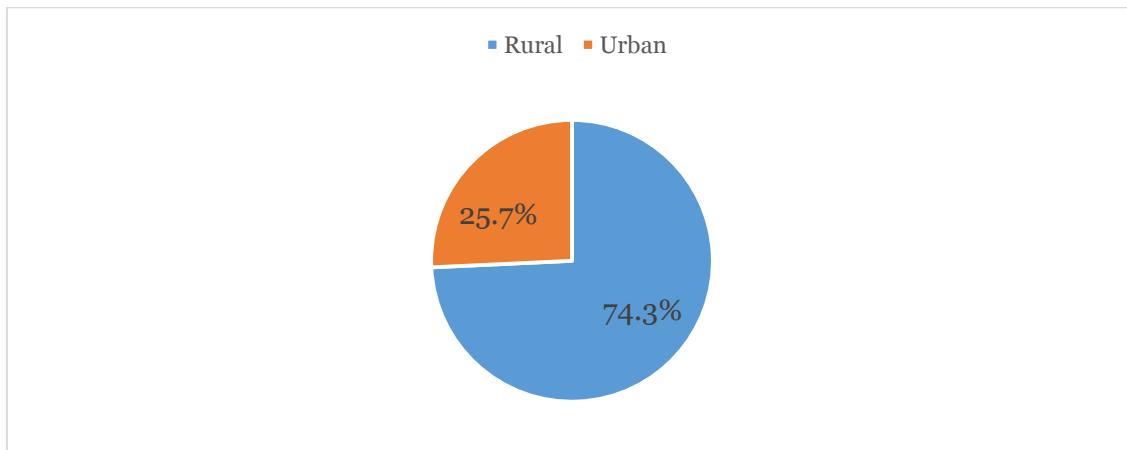
Figure 3.1.3: Households in Rural and Urban Areas across Districts

(% of Households by Districts)
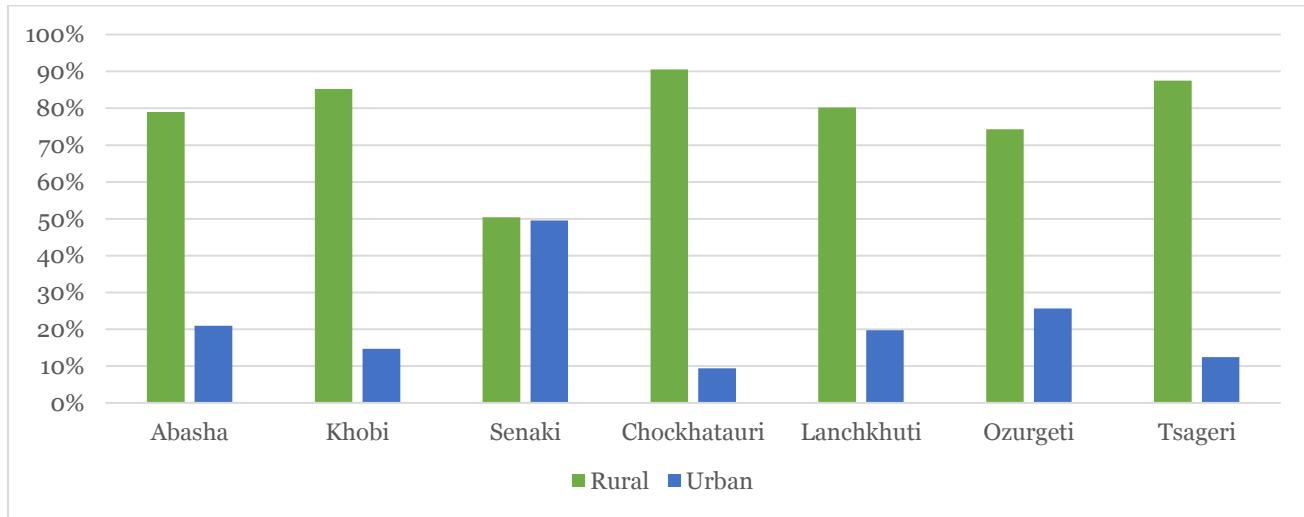
A relatively small proportion of households have internally displaced person (IDP) status (5%) across the seven districts, though there is much variation across districts. In Senaki, for instance, nearly 13% of households had IDP status, while only a few households in Chokhatauri or Ozurgeti had IDP status.

Figure 3.1.4: Households with Internally-Displaced Person Status

(% of Households by District)
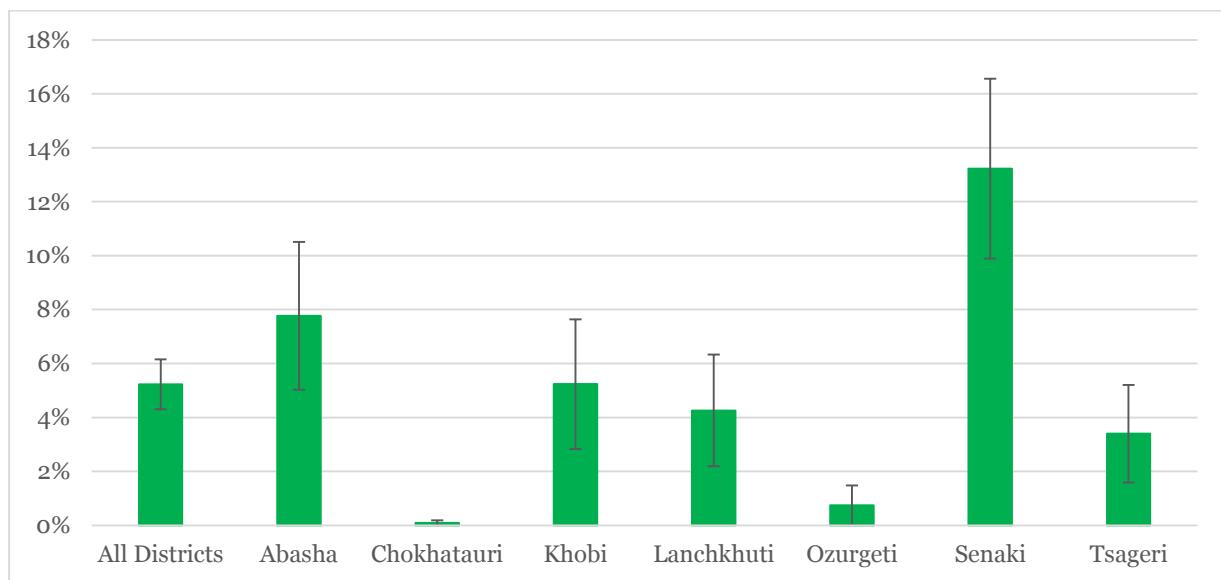
Interestingly, as shown in Figures 3.1.5. and 3.1.6., the average gender composition of the households across the seven districts considered was about 57% female and 43% male. This may be due to a number of factors, including permanent migration abroad and the age composition of households and number of widows.

Figure 3.1.5: Average Gender Composition of Households

(Average Household Composition)
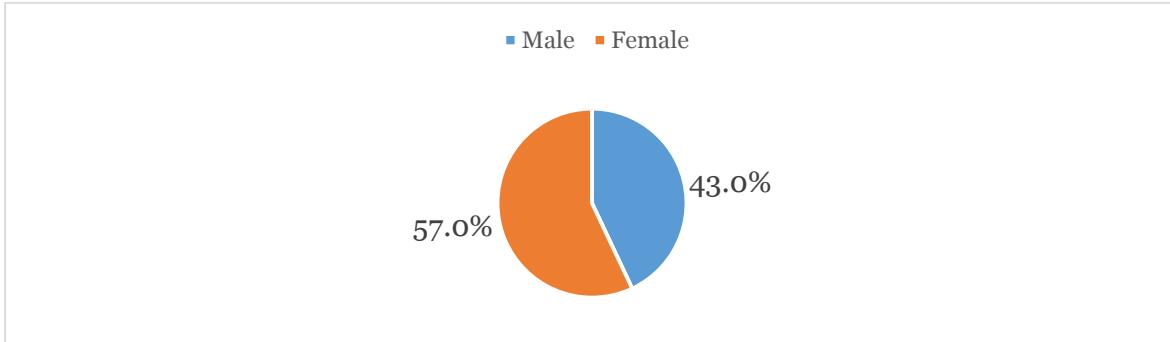
Figure 3.1.6: Average Gender Composition of Households across Districts

(Average Household Composition by District)
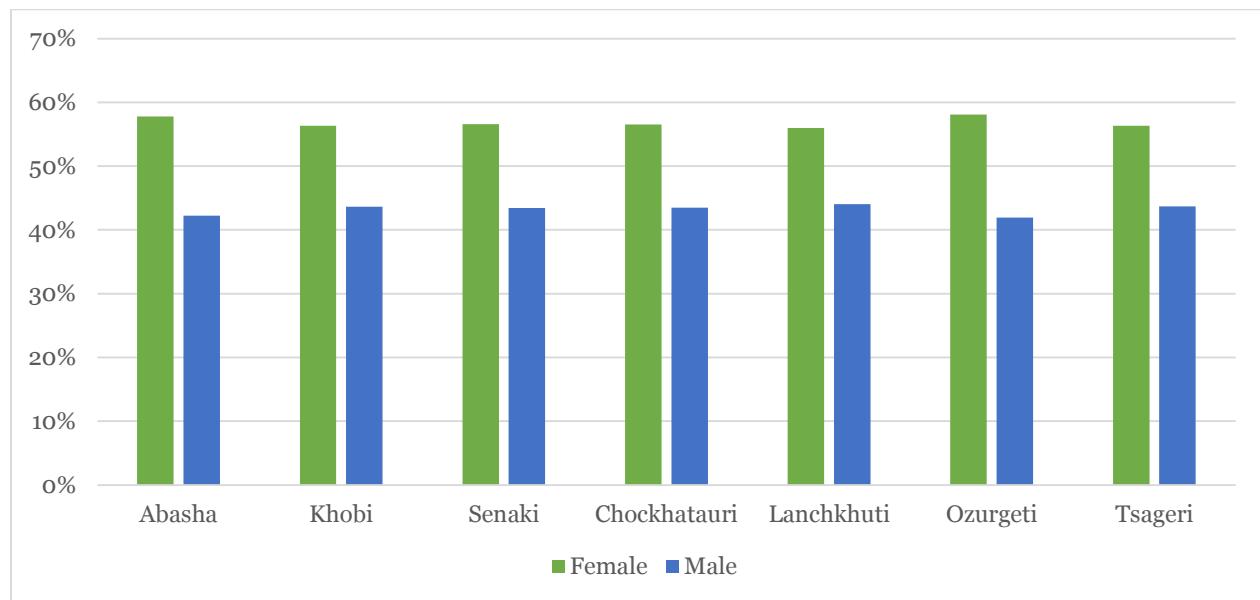
The vast majority of households across all seven project districts are of Georgian ethnic origin. The average household size across the project areas is 3.5. Figure 3.1.7. shows this proportionally across the project area. Across all households in the seven districts considered, the average age of the average household member was 48 at the time of survey administration.

Figure 3.1.7: Distribution of Household Sizes

(% of Households)
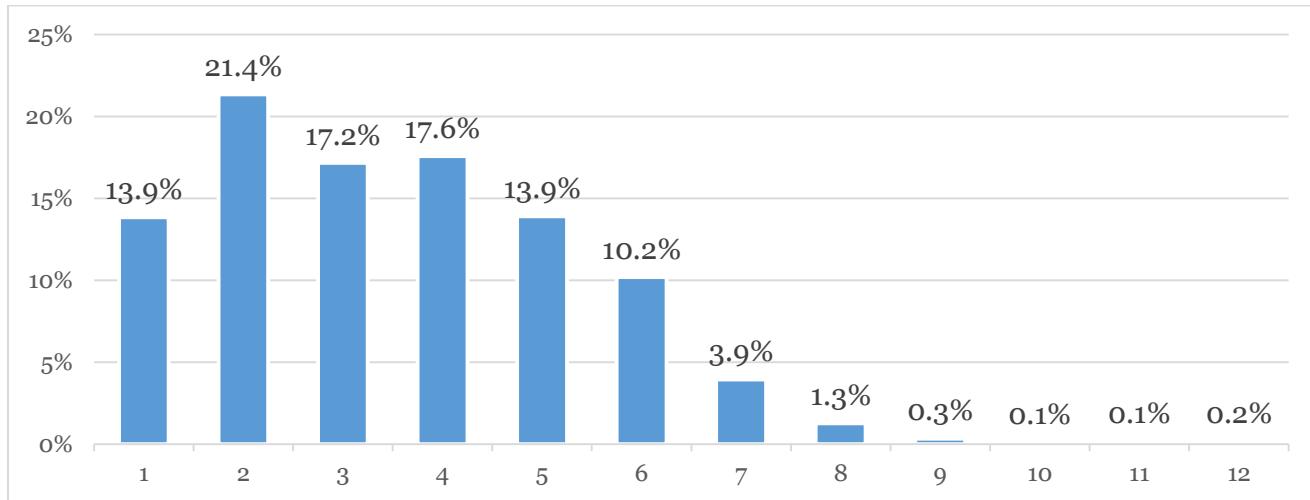
Figure 3.1.8 illustrates that the average household size in Tsageri is statistically different than that in the other project districts (at the 1% level of significance).

Figure 3.1.8: Average Household Member Size

(Average by District)
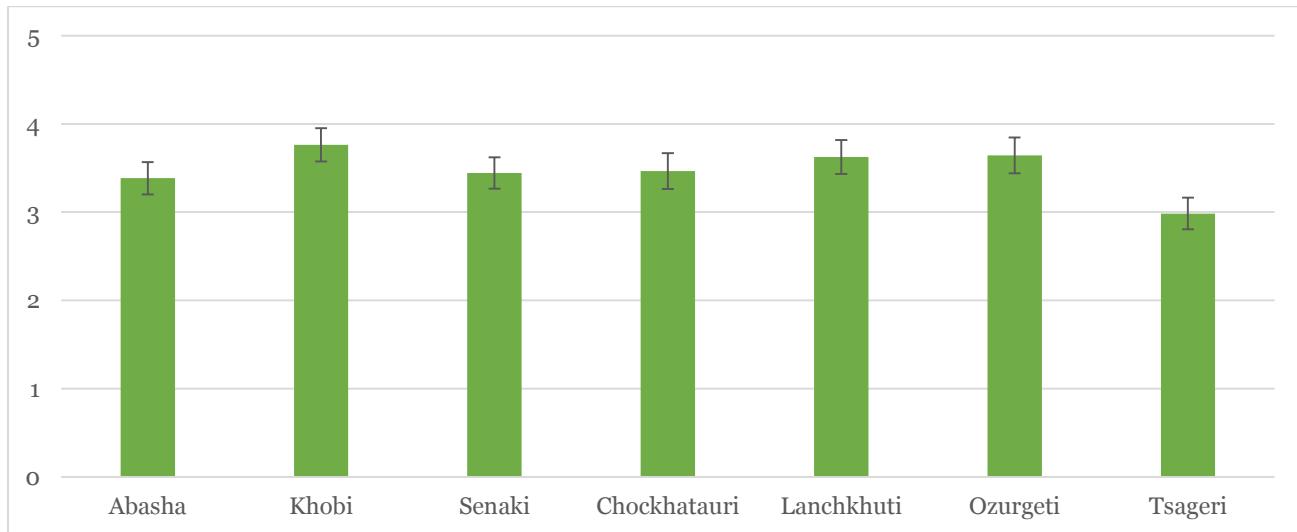
With regard to the respondent for the household, at the time of survey administration, the average age of the respondent was about 56. The majority of respondents were women (70%), which was a similar result across districts (see Figure 3.1.9).[13] The average respondent was in fair health. The

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[13] In some cases, more than one respondent was present during the administration of the survey.

most common level of education was completion of secondary school (43%) or completion of vocational school (31%). About 14% of respondents had completed a postgraduate degree.

Figure 3.1.9: Respondent Gender across Districts
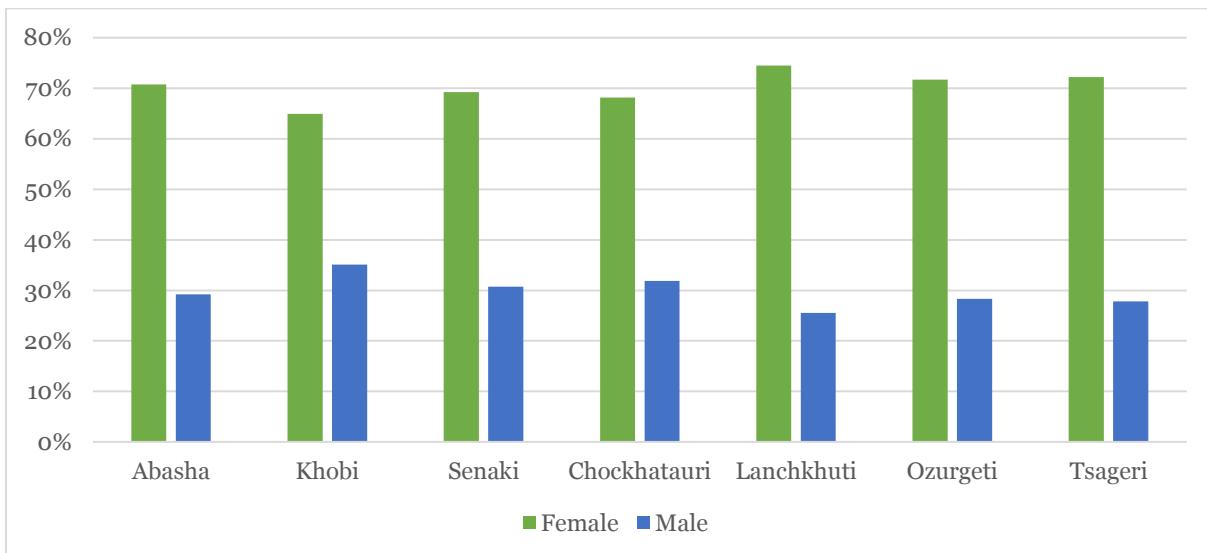
(% of Respondents)

3.2   Migration Behavior

Only a small proportion of respondents indicated that they or someone within their household had spent time abroad or in another region of Georgia during 2013. Indeed, the probability that the average household had a member abroad in 2013 was only about 6%.

We found this somewhat surprising given the anecdotal evidence we encountered during the focus groups and the pilot testing about household members engaging in seasonal agricultural work in Turkey. Given the limited migration behavior, we can infer that seasonal agricultural work in other countries plays at best a minor role in household income generation in Georgia.

Of those household members who went abroad, most did so for work, while others went as a tourist or to visit friends and relatives or for just a short business trip. Among the small proportion of household members going abroad, most were going to Turkey. A few were also traveling to Russia or Ukraine. In some cases, the incomes sent from abroad were quite sizable, though it is difficult to produce an aggregated measure due to the small sample size.

3.3   Employment and Involvement in Agriculture

Most economic activity in western Georgia is agrarian in nature. There are limited employment opportunities in the services sector, and even fewer in manufacturing, light industry, or processing (even considering the processing of agricultural products).

Those employment opportunities in the services sector are typically in the public sector (e.g., teachers, local municipal government officials and staff) though activities like private sector retail

and wholesale trade also play important roles in providing employment opportunities for those residing in these districts.

In order to consider engagement in agriculture and employment more broadly, we asked respondents about their and their household members' labor market activities within the past month.[14] We opted to use a modified version of the standard World Bank Living Standards Measurement Study (LSMS) survey questionnaire with the objective of fully exploring labor market behaviors and labor market outcomes in western Georgia especially as they relate to agriculture and rural development. We asked respondents to report information about those household members age 15 and above.

We first asked respondents whether they or other household members conducted any job for at least one hour during the last month in order to receive a salary, profit, or other form of labor compensation, either in Georgia or abroad. The timeframe for this question was chosen because of the results from the pilot tests of the survey questionnaire, which suggested that there was much incomplete occupational specialization and irregular agricultural employment in rural areas.

We then followed up with additional respondents for which the answer to the above question was "no." Specifically, we asked respondents the questions put forth in Table 3.3.1 in order to understand the economic activities undertaken by members of their household more broadly.

Table 3.3.1: Questions about the Labor Activities of Household Members (Age 15 and Above)
Did you or [NAME] conduct any job for at least 1 hour during the last month independently or together with others in order to receive a salary, profit, or other (cash or in-kind) labor compensation, either within Georgia or outside the country?
Did you or [NAME] engage in farming, hunting, fishing or gathering non-timber forest products for own consumption or for sale for at least 1 hour during the last month, either within Georgia or outside the country?
Have you or [NAME] been involved in the processing of any agricultural products, corn grinding, wine making, making cheese, butter, canned products, etc., or sewing, knitting, making brooms, baskets, etc., for own consumption or for sale, either within Georgia or outside the country, in the last month?
Have you or [NAME] been involved in construction activities for your dwelling, handicraft, teaching, medical service, serving as a master, private tutor, private doctor, driver, etc., either within Georgia or outside the country, during the last month?
Did you or [NAME] do any unpaid job at a farm/in your household or did [NAME] help friends/neighbors, e.g., through teaching, doing any services (for free) for members of other households, either within Georgia or outside the country, during the last month?
Even though you or [NAME] did not work during the last month, do you or [NAME] have any work or business, either within Georgia or outside the country, that you or [NAME] could not perform temporarily due to illness, vacation, studying, a temporary close of the enterprise, etc., i.e., a job from which you or [NAME] were/was temporarily absent?
Did you or [NAME] work at any point in 2013, even if you or [NAME] currently do/does not have a job anymore?

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[14] While other surveys have assessed labor market activities within the past 7 days, given the degree of agricultural activity across the project areas, some of which may be particularly intense (or not) over time, it was deemed best to expand the time period considered.

3.3.1 Individual-level Results

The results suggest that the majority of those household members in the labor force (those employed based on one of the above criteria, or those seeking a job if unemployed) across the project areas were engaged in agricultural pursuits in 2013 (i.e., were mixed crop growers working in the agricultural sector, either formally or informally). It is clear that the labor market activities undertaken by households across the project areas were predominantly agrarian in nature.

Considering all individuals across the project districts, about 65% were primarily employed in agriculture, while about 73% were either primarily or secondarily employed in agriculture. Very few individuals across the project districts were primarily employed in agricultural processing activities (about 1%). However, men were more likely to be primarily employed in agricultural processing activities (1.5%) than women (0.6%) and this difference was statistically significant.

There were significant gender differences with regard to primary employment in agriculture across the seven districts. Considering all individuals across the project districts, women were more likely to be classified as primarily employed in agriculture (68%) than men (61%) and this difference was statistically significant at the 1% level. Considering either primary or secondary employment in agriculture, the gender difference was still statistically significant, with 75% of women being primarily or secondarily employed in agriculture and 72% of men.

Again, we have limited information about the intensity of involvement in agriculture, specific activities conducted by men and women, and the hours spent on various agricultural activities, so there are certainly important areas for future research.

Based on the above employment screener, about 5.4% of household members age 15 and above classified as being in the labor force were unemployed and looking for a job. Again, we are considering any form of employment or income-generating activity within the past month, so if we relied upon a time frame of one week, this statistic might be slightly higher. The unemployment rate for women was about 5.5% and the unemployment rate for men was about 5.3%. This difference was not statistically significant.

3.3.2 Household-level Results

In this section, we take a look at the labor force statistics at the household level (considering that household composition varies considerably across the project districts).

As shown in Figure 3.3.1, there weren't substantial differences across districts when it came to the proportion of household members primarily employed in agriculture. Households in Chokhatauri perhaps had the highest proportion of their members primarily engaged in agricultural pursuits, though this difference does not appear to be quite high.

Figure 3.3.1: Proportion of Household Members Primarily Employed in Agriculture

(Average across Households)
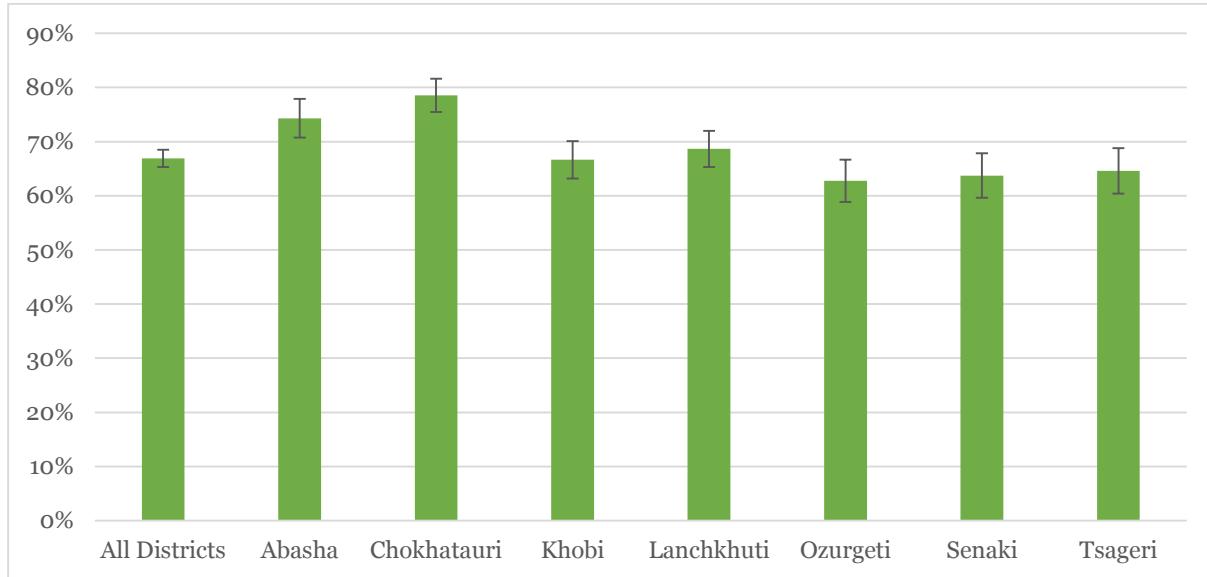
What was even more telling about the labor markets across these districts is the proportion of household members primarily *or secondarily* employed in agriculture. As illustrated in Figure 3.3.2, Chokhatauri is likely the most agrarian district when it comes to the labor market. The average household in Chokhatauri had 92% of its household members employed in agricultural pursuits (either primarily or secondarily).

**Figure 3.3.2: Proportion of Household Members Primarily or Secondarily
Employed in Agriculture**

(Average across Households)
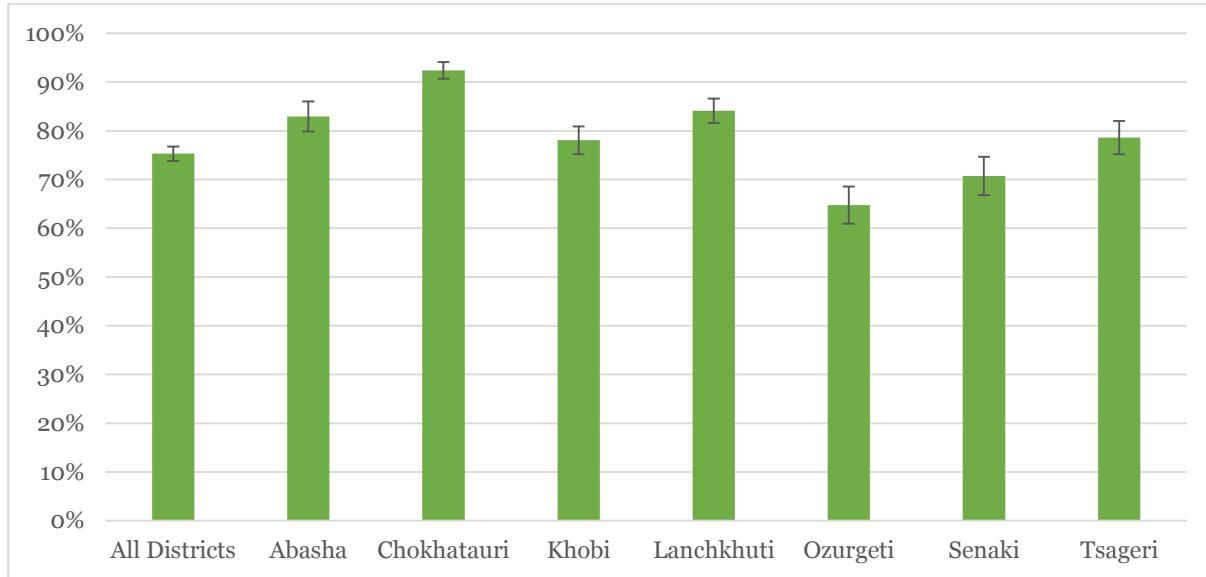
The average household had about 5% of its members age 15 and above and classified as being in
the labor force unemployed. As shown in Figure 3.3.3, there were rather significant differences
across districts with regard to the average household's proportion of eligible members who were
unemployed.

Figure 3.3.3: Proportion of Household Members Unemployed

(Average across Households)
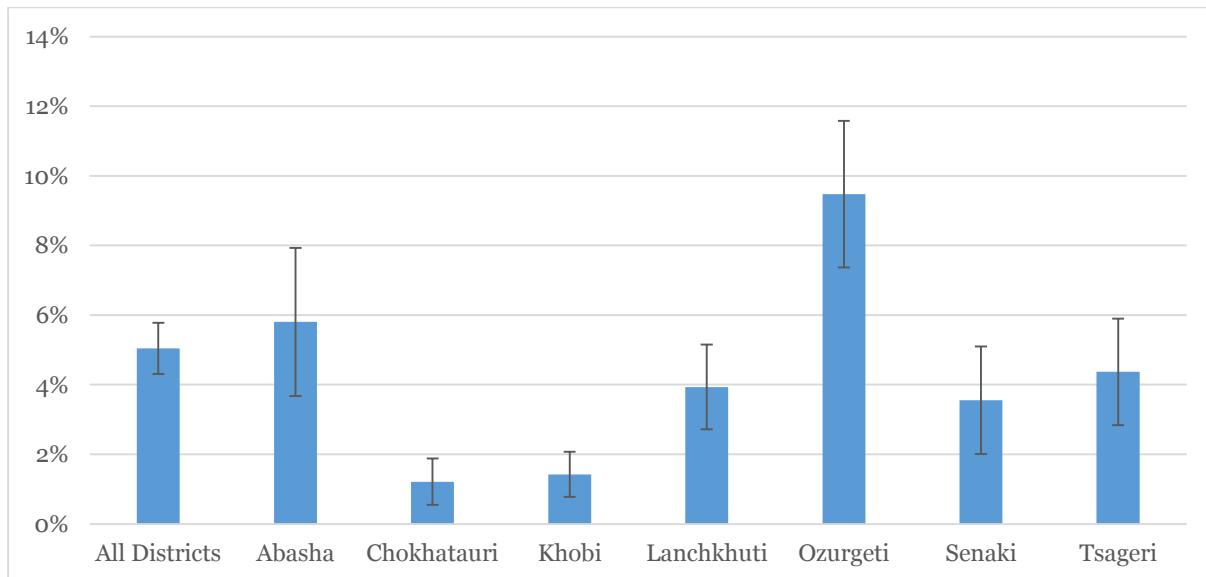
Among those household members age 15 and above who had spent any time on agricultural activities on a typical day during the past week (whether they were in the labor force or not), we found that on average across households the average female household member spent about 2 hours on agricultural activities on a typical day during the past week. Rather similarly, the average male household member spent about 2.5 hours on agricultural activities on a typical day during the past week.

These statistics, while rather roughly calculated, do illustrate the agrarian nature of labor activities undertaken in the project districts. Of course, these figures tell us little about the intensity of involvement in agricultural pursuits or about the productivity of such labor activities. This would require much more extensive research and the usage of both time diaries and agricultural production diaries, which represents an important area for future research.

Relatively few household members were engaged in any manufacturing or industrial activities. A decent proportion of household members were engaged in service provision, primarily in primary or secondary education, general public services (e.g., work with local municipal governments), wholesale and retail trade, pharmaceutical sales and distribution, hospital services, among others.[15]

3.4 Sources of Information

In the average household, the average household member either owned their own mobile phone (65% likelihood) or shared a mobile phone with another household member (17% likelihood).[16]

The likelihood that, in the average household, the average household member used the internet within the past 7 days was 19%. The primary places for internet use was at home, though others used their mobile phones or their workplaces to access the internet.

3.5 Sources of Household Income

While we asked respondents about the employment-based sources of income for each of their household members, as the results in Section 3.3 illustrate, in most cases household members were self-employed in agriculture or were working for the household as subsistence (or semi-subsistence) farmers.

Because farm receipts and production costs were seldom accounted for by farming households (and when they were recorded they were even more rarely reported to survey enumerators), it is difficult to precisely calculate income from agricultural activities or income from self-employment.

While we also asked respondents about additional sources of household income (e.g., from pensions or from other important sources), as is the case with other household surveys asking respondents sensitive questions about the sources of overall household income, it is likely that the income measures are underreported. This illustrates the importance of relying on multiple measures of household well-being, including the following measures of household living conditions and asset ownership, which may be more accurate.

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[15] Calculations of the average household share of employment in these services or other labor activities are available upon request.

[16] It should be noted that the household may still have a fixed line shared by all members of the household.

Nevertheless, we found that the average household received about 1,470 GEL in 2013 from pensions. Around 33% of households received no pension income. The average household received about 230 GEL in 2013 from other state-provided financial support, though about 82% of households received no additional state-provided financial support.

The majority of respondents reported that their household received income from agricultural vouchers. Indeed, only 33% of households did not receive income from agricultural vouchers. The average receipt of income from this source was about 131 GEL.

Only a handful of households received income from scholarships or payment of tuition fees by others (and nearly 98% of households did not have this source of income). Similarly, very few respondents reported that members of their household received income from shares, dividends, stocks, interest from bonds or deposit accounts and, again, nearly 98% of households did not have this source of income. Further, very few respondents reported receiving any household income from renting of a house/apartment, summer house, car, or other major property (with 98% of households not receiving this source of income). A handful of respondents reported that their household received income from gifts or inheritances, though again about 96% of households did not receive this source of income. Very few respondents reported receiving income from grants from a donor organization, the government, or a NGO, with 98% of households not having this source of income.

Almost no respondents reported that their household received income from selling land, antiques or unique items, a house, automobile, furniture, or other large assets or expensive properties. This is not to say that these transactions were not taking place across the project districts, as a more likely scenario is that respondents were not very willing to reveal to enumerators their household's private financial transactions (especially due to the fear that such responses could potentially be used for tax purposes). [17]

3.6   Household Living Conditions and Asset Ownership

The vast majority of respondents indicated that their apartment or house was owned by the household (96%). A small proportion of key respondents indicated that their apartment or house was used for free (3%). These results illustrate that there are few residential rental transactions under way across the project areas. Figure 3.6.1 presents these results by district.

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[17] A hurried restructuring of the survey questionnaire in May resulted in a category about remittances sent from family members abroad (who are not classified as permanent members of the household) being omitted from this section, thus we unfortunately cannot say anything about the degree to which remittances from family members who are not classified as permanent members of the household play a role in household income.

Figure 3.6.1: Housing Status across Districts

(% of Households by District)
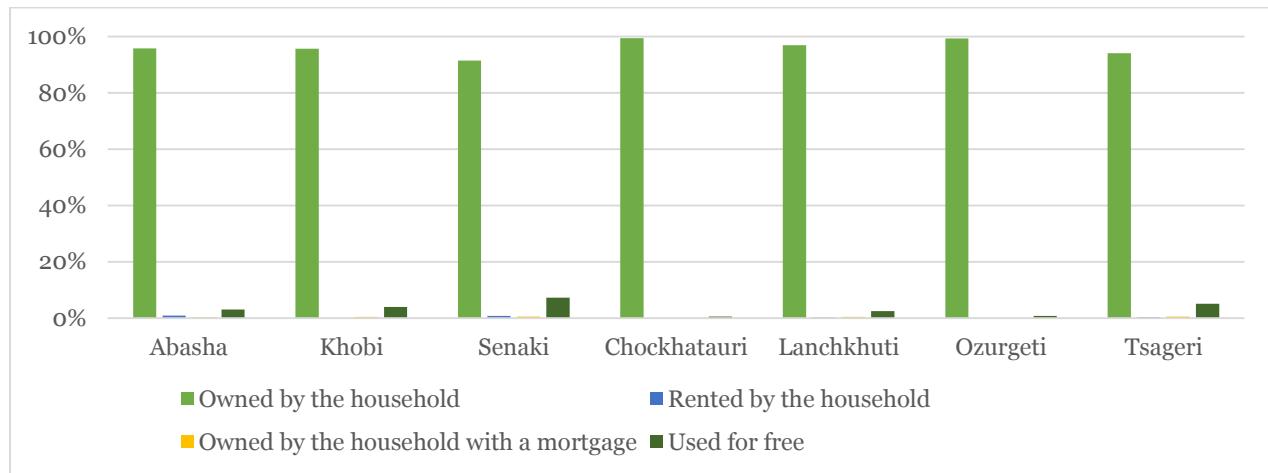
When asked to describe the overall condition of their apartment/house, most key respondents indicated that their apartment/house was partly in need of renovation (39%) or in need of complete renovation (48%). There was not a statistically significant difference in responses based on the gender of the key respondent. These results are shown in Figure 3.6.2.

Figure 3.6.2: Housing Conditions

(% of Respondents)
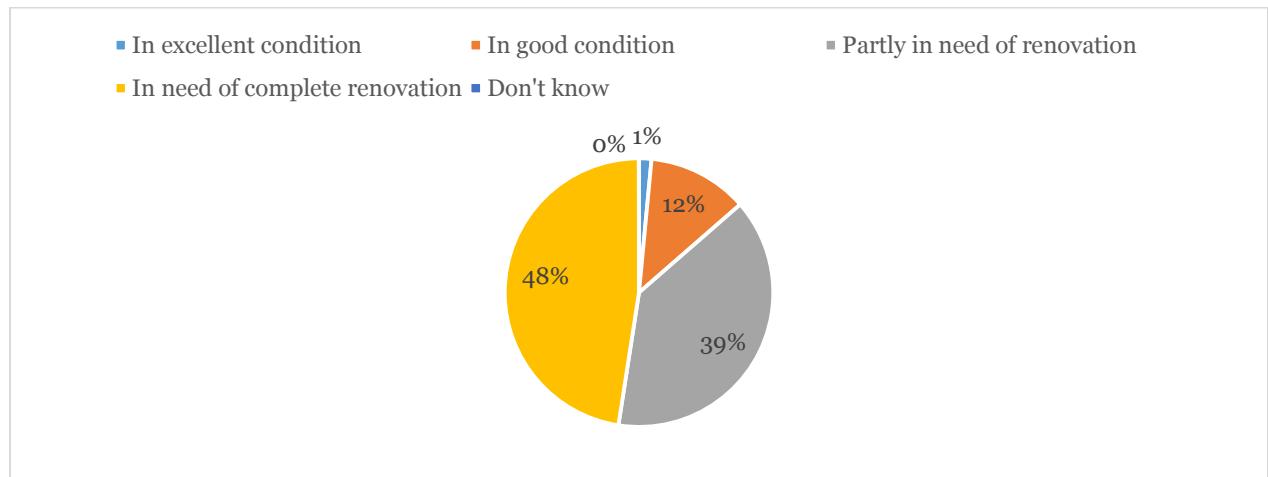
Self-reported housing conditions were more or less similar across the three regions and seven districts/municipalities, with self-reported housing conditions being relatively superior in Senaki.

Figure 3.6.3: Housing Conditions across Districts

(% of Respondents in Each District)
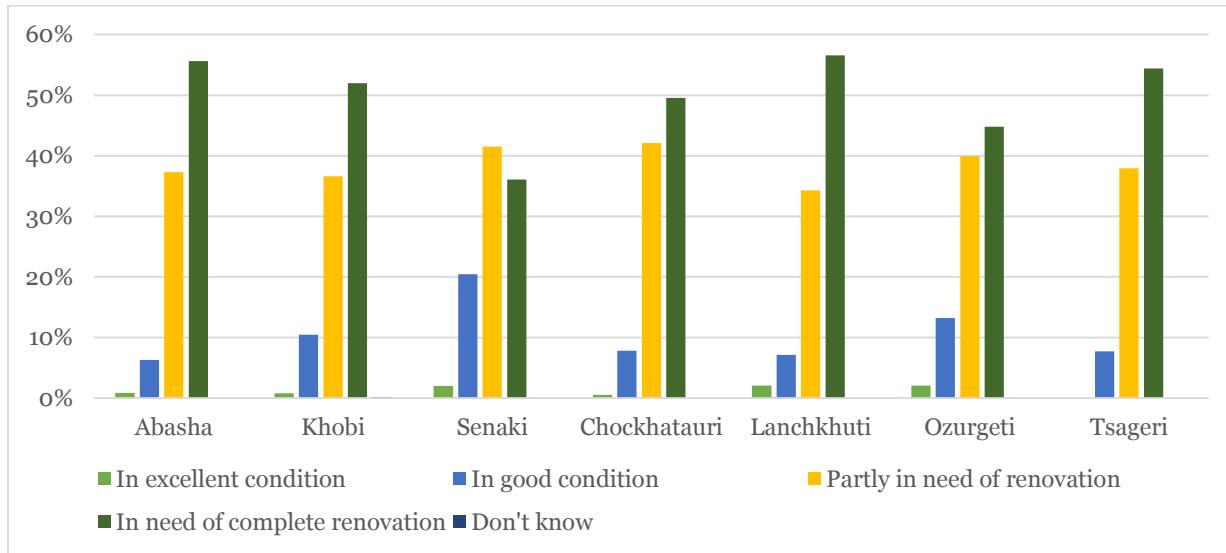
Excluding those respondents who indicated that they did not know the total area of their house/apartment or refused to answer (which was the case for 10% of respondents), the average size of a house/apartment was 136 m². Again considering only those respondents who knew or gave a response about the size of the dwelling area of the house/apartment (where 12% of respondents did not), the average dwelling area of the house/apartment was 107 m².

With regard to the household's basic source of potable and sanitary-hygienic water, the responses varied considerably across households and across districts. Figure 3.6.4 illustrates that many households had water supplied from a well in the yard or in the vicinity of the household (40%), from the water supply system installed in the apartment/house (31%), or from the water system tap in the yard or in the vicinity of the household (13%).

Figure 3.6.4: Basic Source of Potable and Sanitary-Hygienic Water Supply

(% of Households)

- From the water supply system installed in the apartment/house
- From a water system tap in the yard or the vicinity
- From a well in the yard or the vicinity
- From a natural spring in the yard or the vicinity
- From a river, lake spring, or channel
- From large bottles purchased at the market
- From an individual system
- From borehole water
- From a water pump
- Don't know
- RA/skipped
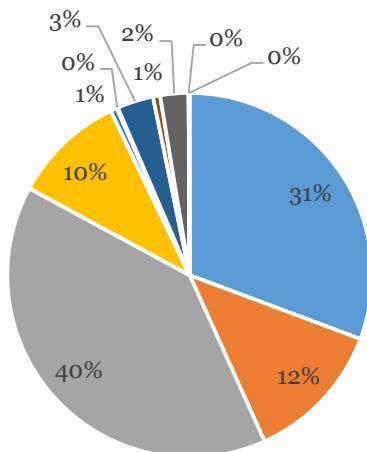
There were rather substantial differences across districts with regard to the primary water source, as illustrated by Figure 3.6.5. In Abasha, for instance, most households received water from a well in the yard or in the vicinity of the household, while in Tsageri most households received water from a water supply system installed in the apartment/house or from a water system tap in the yard or the vicinity of the household.

Figure 3.6.5 Basic of Potable and Sanitary-Hygienic Water Supply (% of Households by district)
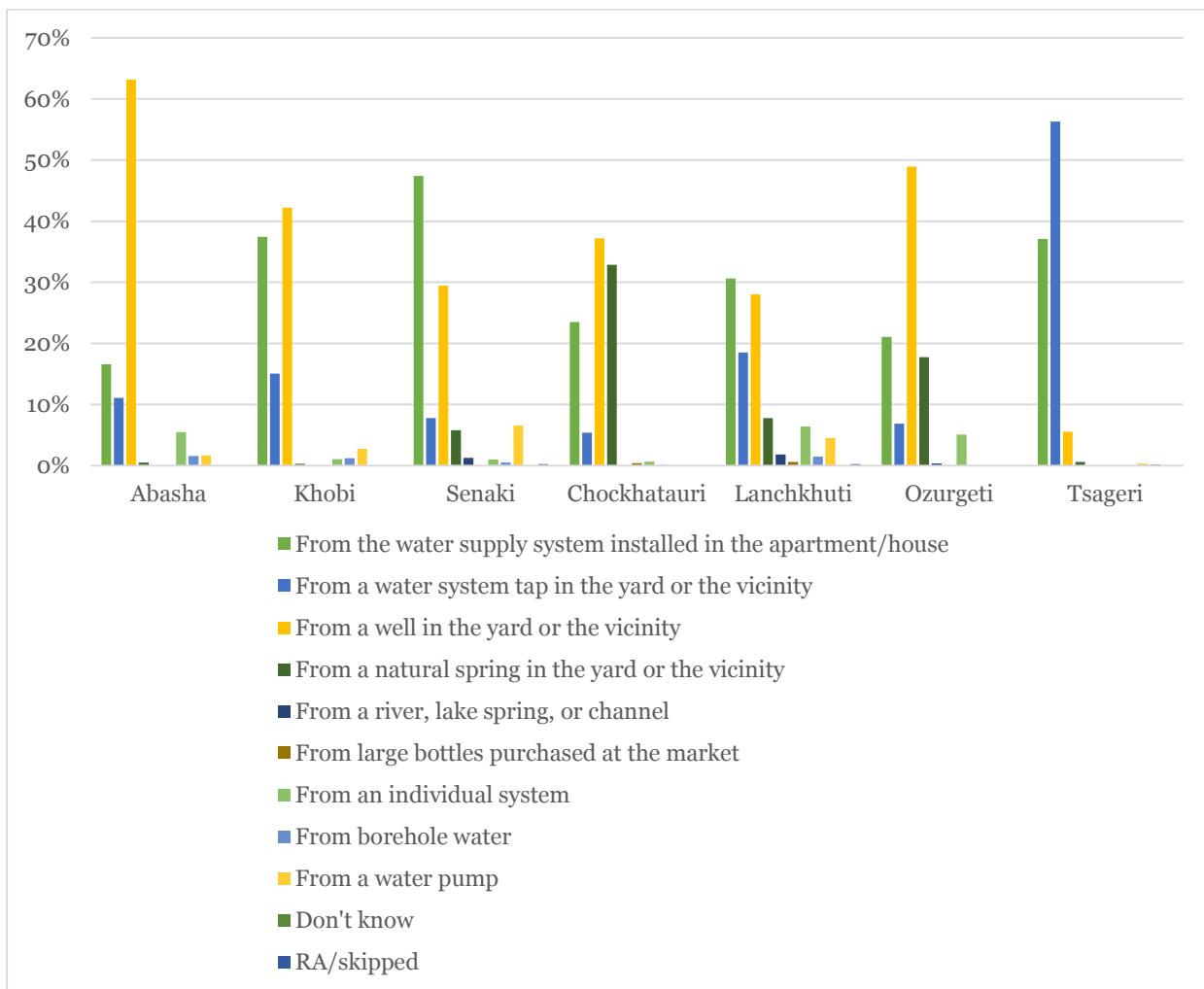
Figure 3.6.6 also illustrates the degree to which households were equipped with various amenities. Later in the report, we use these indicators to construct indices of household living conditions and ownership of durable goods.

**Figure 3.6.6: Household Amenities**

(% of Households)
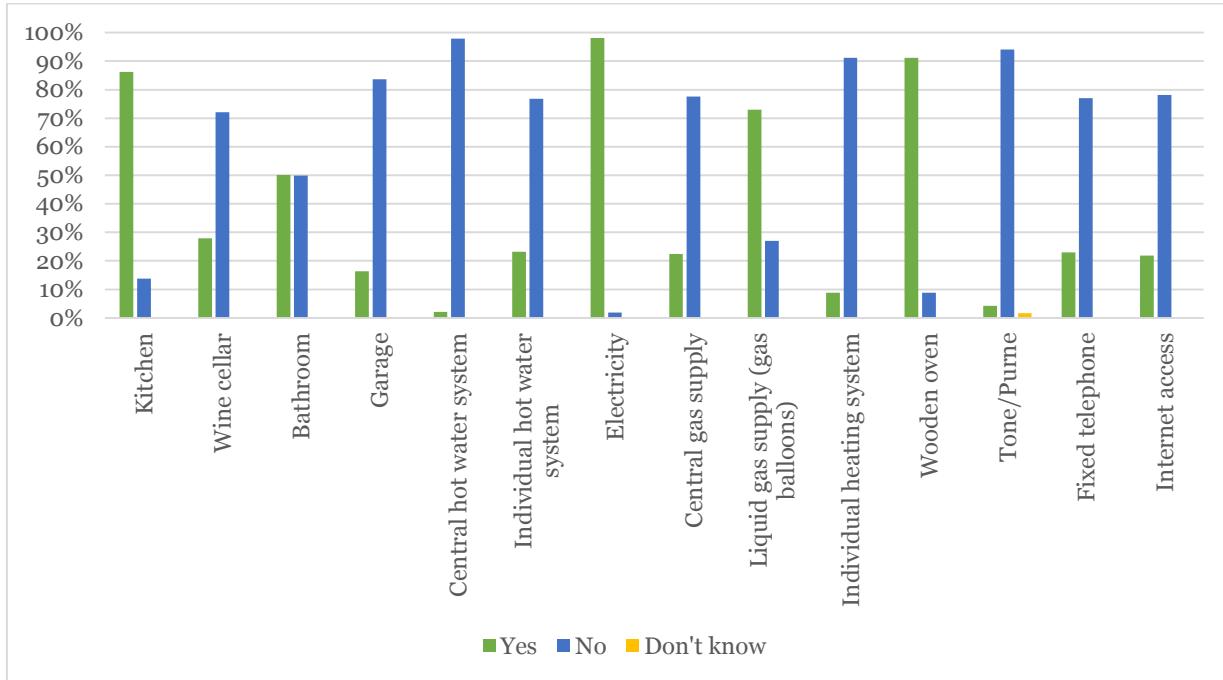
Figure 3.6.7: Household Durable Good Ownership

(% of Households with at Least One of the Following Items)
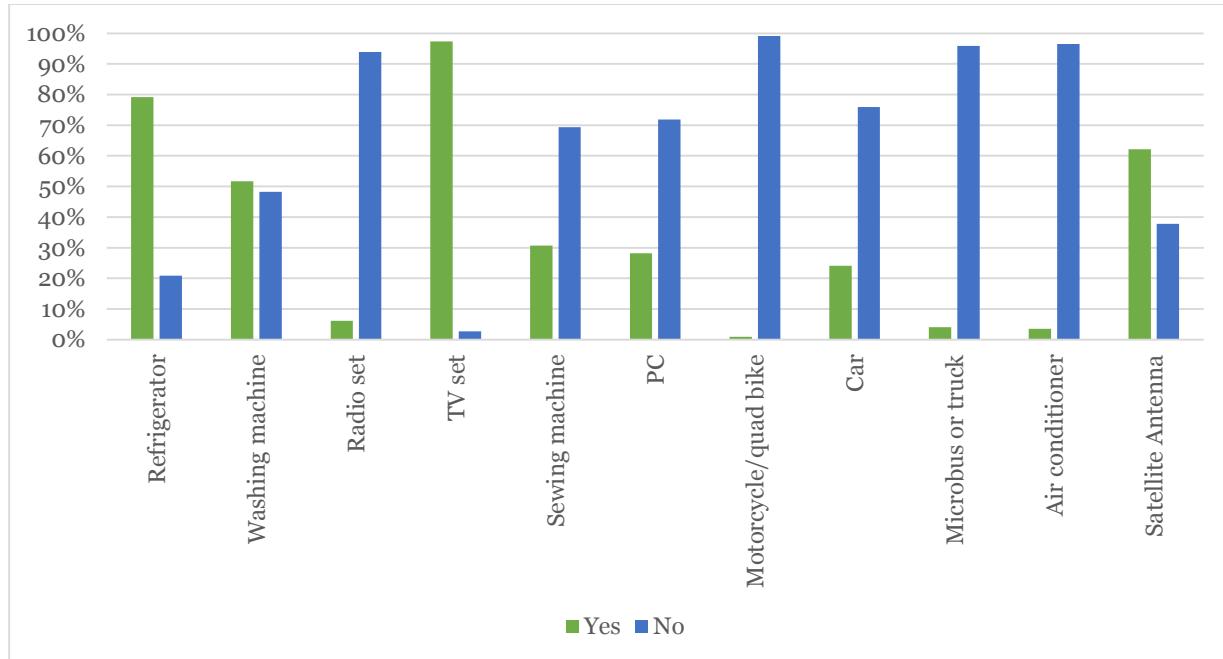
Figure 3.6.8: Household Agricultural Asset Ownership

(% of Households with at Least One of Each of the Following Agricultural Items)
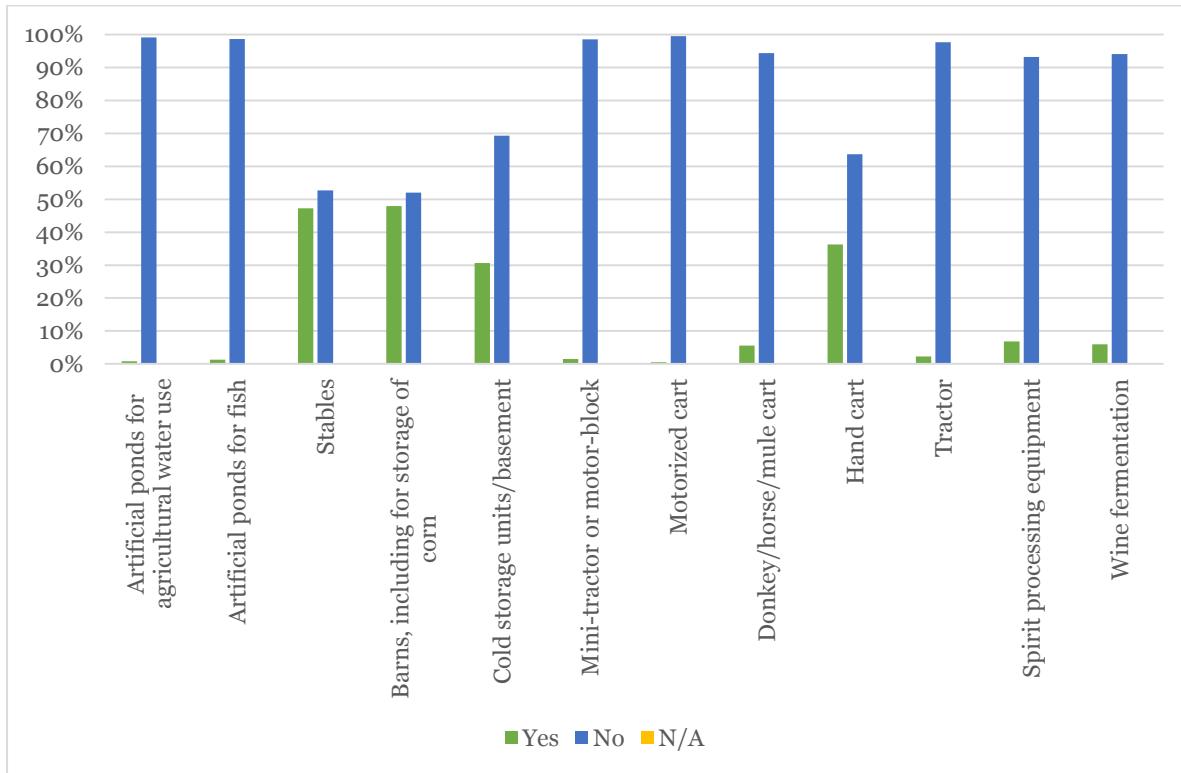
3.7 Access to and Use of Credit

One of the oft-stated challenges facing smallholder farmers in Georgia is limited access to finance. When conducting the initial field research for this project, we talked with a number of farmers who mentioned that this was one of the biggest problems they faced. High interest rates were mentioned as being barriers to taking out loans. While credit sources were available, the matter of access concerned the price of credit or the repayment terms.

We wanted to explore these issues more systematically across the project area, and thus included a credit constraints screener and additional questions about credit-seeking or credit-taking behavior. The following questions were partly informed by a World Bank study about credit constraints in Rwanda.

We asked whether the key respondent or anyone else within the household applied for a loan in 2013, and then followed up thereafter with a sequence of questions depending on the key respondent's answer to this question. Enumerators were informed to consider all possible loan sources, including traditional points of access to credit like banks, microfinance institutions, but also neighbors, friends, or family members, local traders, input suppliers, pawn shops (*lombardi)*, and informal moneylenders.

Across the project areas, 34% of households had at least one member who applied for a loan in 2013.

30

Responses varied considerably across the seven districts under consideration (see Figure 3.7.2). In Chokhatauri, for instance, only 17% of households had applied for a loan in 2013. This contrasts sharply with Khobi, where 48% of households had applied for a loan.

**Figure 3.7.1: Loan Applicants**

(% of Respondents)
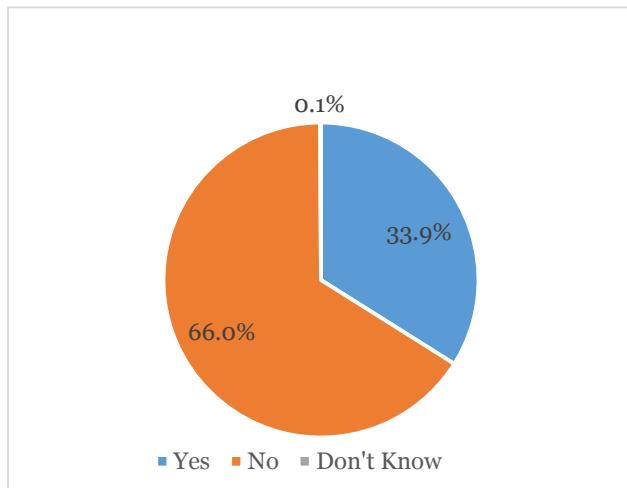
**Figure 3.7.2: Loan Applicants across Districts**
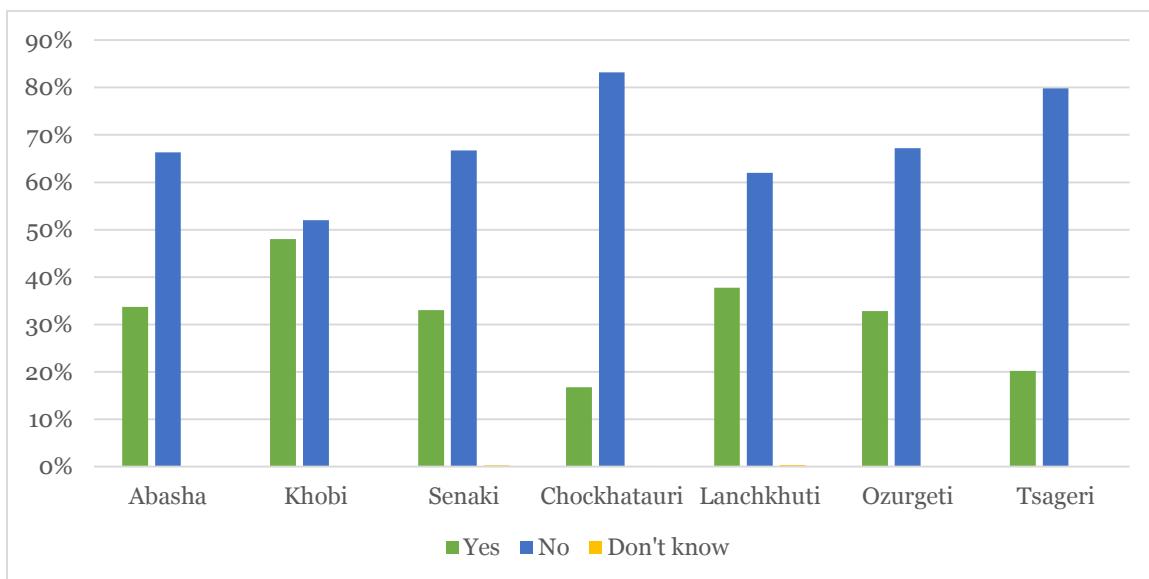
(% of Respondents)

We asked respondents to select up to three reasons for why they or another household member did *not* take out a loan in 2013.

Figure 3.7.3: Reasons for Not Applying for a Loan in 2013

(% of Respondents | No Loan Applied for in 2013)
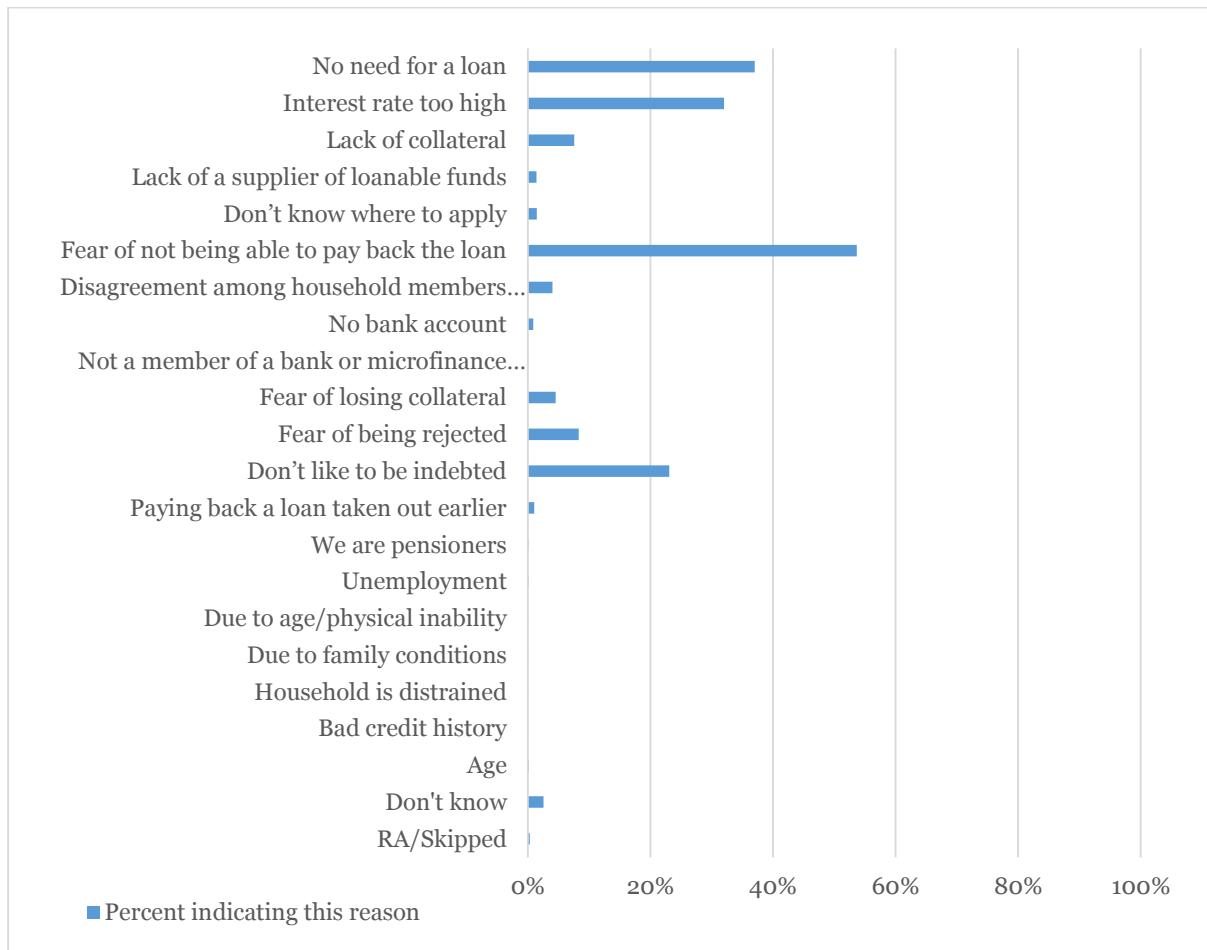
As illustrated in Figure 3.7.3, many respondents indicated that they feared not being able to pay back the loan (54%), that the interest rate for a loan was too high (32%), or that they don't like to be indebted (23%). Many respondents indicated that their household simply had no need for a loan (37%).

Interestingly, as shown in the above figure, relatively few respondents indicated that a lack of collateral, a lack of a supplier of loanable funds, not knowing where to apply, a fear of losing collateral, a fear of being rejected, not having a bank account, not being a member of a bank or microfinance institution or disagreement among household members about taking out a loan were reasons for not taking out a loan during 2013.[18]

Responses varied across the seven districts considered. For instance, Figure 3.7.4 shows the proportion of households citing 'fear of not being able to pay back the loan' as being a reason for

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[18] One additional option we should have included here is the repayment period, as some mentioned this as being a problem during our subsequent field visits.

not taking out a loan in 2013. In Senaki, for example, 52% of respondents indicated that simply having no need for a loan was the reason for which no one in their household applied for a loan in 2013.

Figure 3.7.4: Proportion of Households Citing 'Fear of Not Being Able to Pay Back the Loan' as a Reason for Not Taking out a Loan in 2013

(% of Respondent by District | No Loan Applied for in 2013)
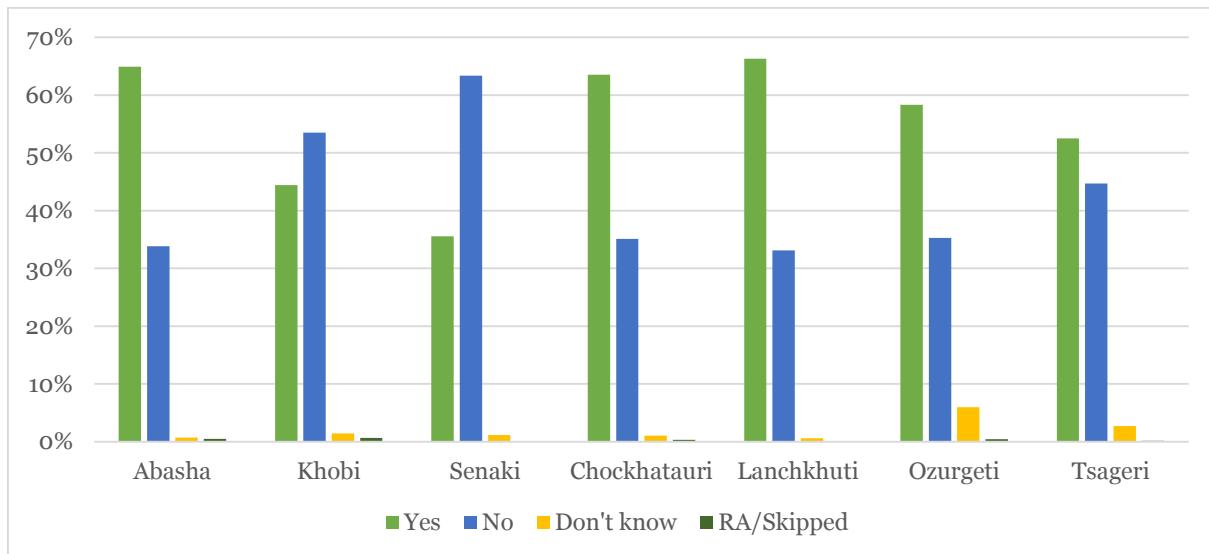
Figure 3.7.5: Proportion of Households Citing 'No Need for a loan' as a Reason for Not Taking out a Loan in 2013

(% of Respondents by District | No Loan Applied for in 2013)
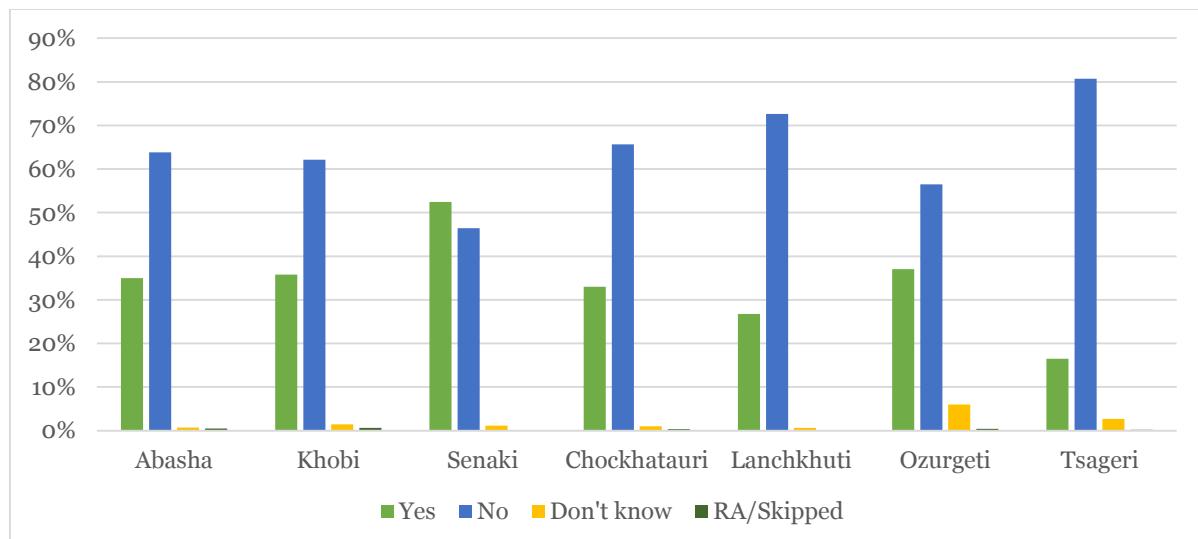
Interestingly, many respondents coupled their answer of 'no need for a loan' with other explanations. Having no need for a loan was the only reason for not taking out a loan for the 19% of households for which this question applied. Yet other households indicated a mixture of

reasons, including having no need for a loan as well as fearing not being able to pay back the loan (9% of households) having no need for a loan but also citing that the interest rates were too high (8% of households), or having no need for a loan but also not liking to be indebted (6% of households). These suggestive figures illustrate that the reasons for not taking out a loan are rather complex and a simple 'no need for a loan' response might be accompanied by other important reasons (including interest rates or a worry about being able to finance the loan in due time).

3.7.1 Loan Recipients

As indicated above, 34% of households applied for at least one loan during 2013. Among all households surveyed, 4% had applied for at least two loans during 2013, while less than 1% had applied for up to three loans.

For those households that did apply for a loan in 2013, most did so for their first loan at a bank (70%) or a microfinance institution (22%), while only a handful of households sought a loan from a neighbor, friend, or family member (2%) relied upon an installment-based purchase agreement (4%). The results were fairly similar for the second and third loans, with a bank or microfinance institution being the primary sources for these loans.

This is not to say that informal lending among neighbors, friends, or family members is not a potentially important financial transaction, however, as the wording of this question about receiving a loan may have led the respondent to think of banks or microfinance institutions rather than "applying" for a loan from a friend or family member. The same may be the case for local traders, input suppliers, pawn shops, and informal moneylenders, which were seemingly unimportant sources of credit during 2013 across the project areas, but again may have played a role in providing financial services to households.

3.7.2 Loan Applications

Restricting our analysis to the first loans taken out by households, we see that the average size of the loan applied for or sought out by a household was 2,660 GEL.[19] The average size of the loan received by a household was 2,370 GEL. Among those households considered, the average household received 92% of the loan for which they applied or sought. This result was more or less similar across districts.

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[19] Note that this figure does not consider those respondents who reported they didn't know the amount of the loan sought (2.4%) or those who refused to respond (less than 1%).

Figure 3.7.6: Average Loan Application Amount | Average Loan Amount Received

(% of Respondents [by District] | Loan Applied for in 2013)
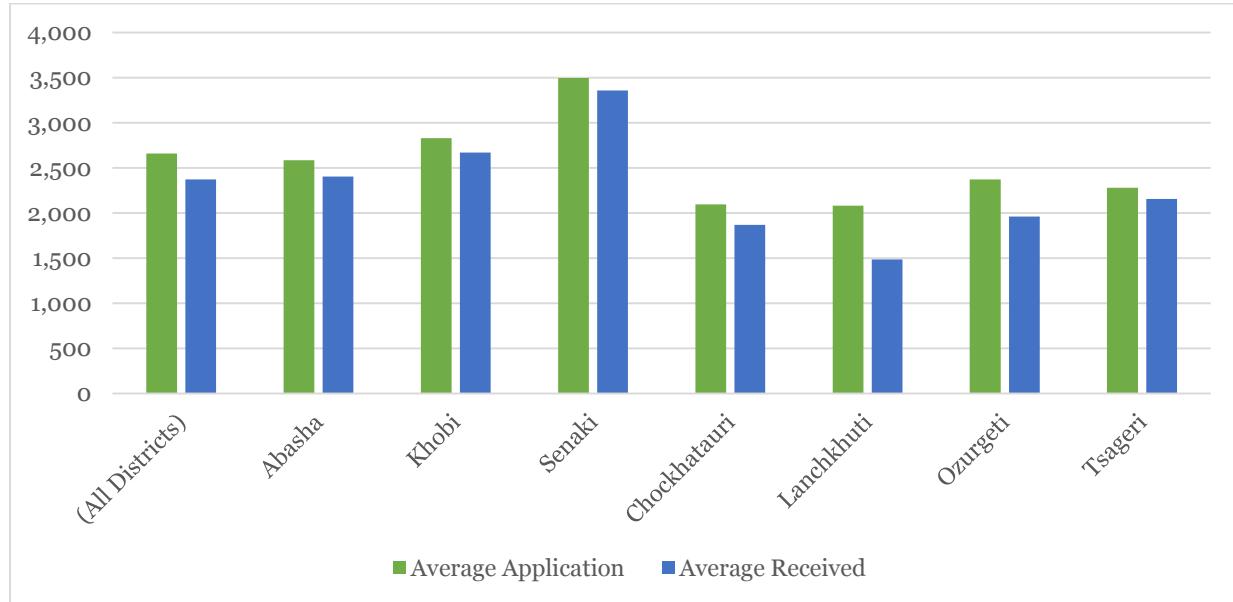
Figure 3.7.7: Average Percent of the Loan Received by the Household

(% of Respondents [by District] | Loan Applied for in 2013)
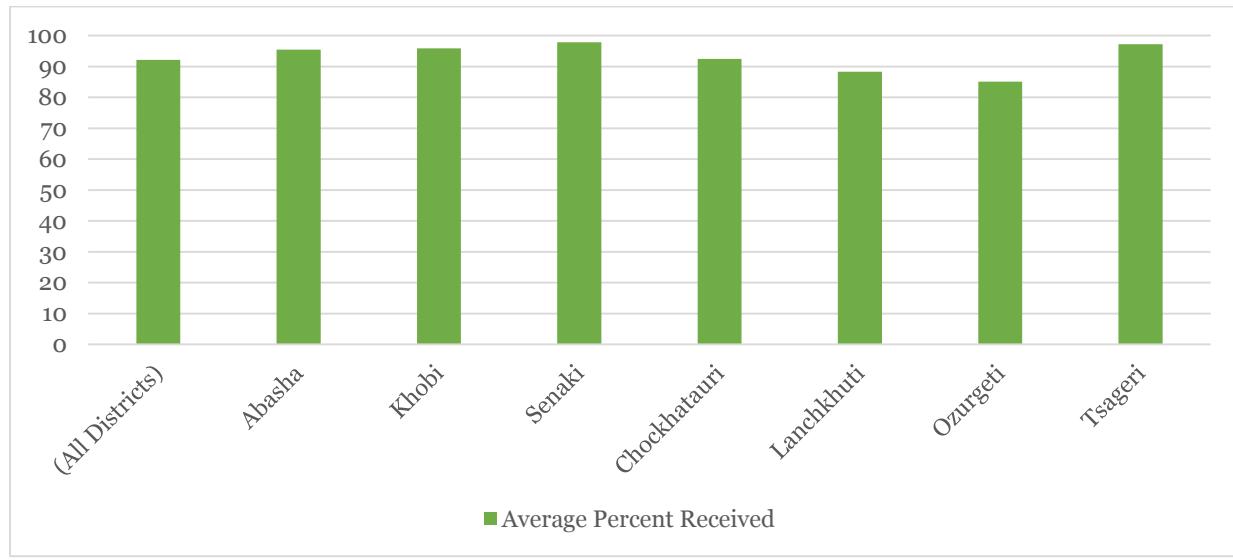
Interestingly, no collateral was required for most of these loans (54% of respondents indicated this was the case). When collateral was required, the household's apartment/house was the primary source (22%) though listing salaries and/or social assistance served as a form of collateral for 5% of households which took out a loan in 2013.

Figure 3.7.8: Form of Collateral for the First Loan

(% of Respondents | Loan Received in 2013)
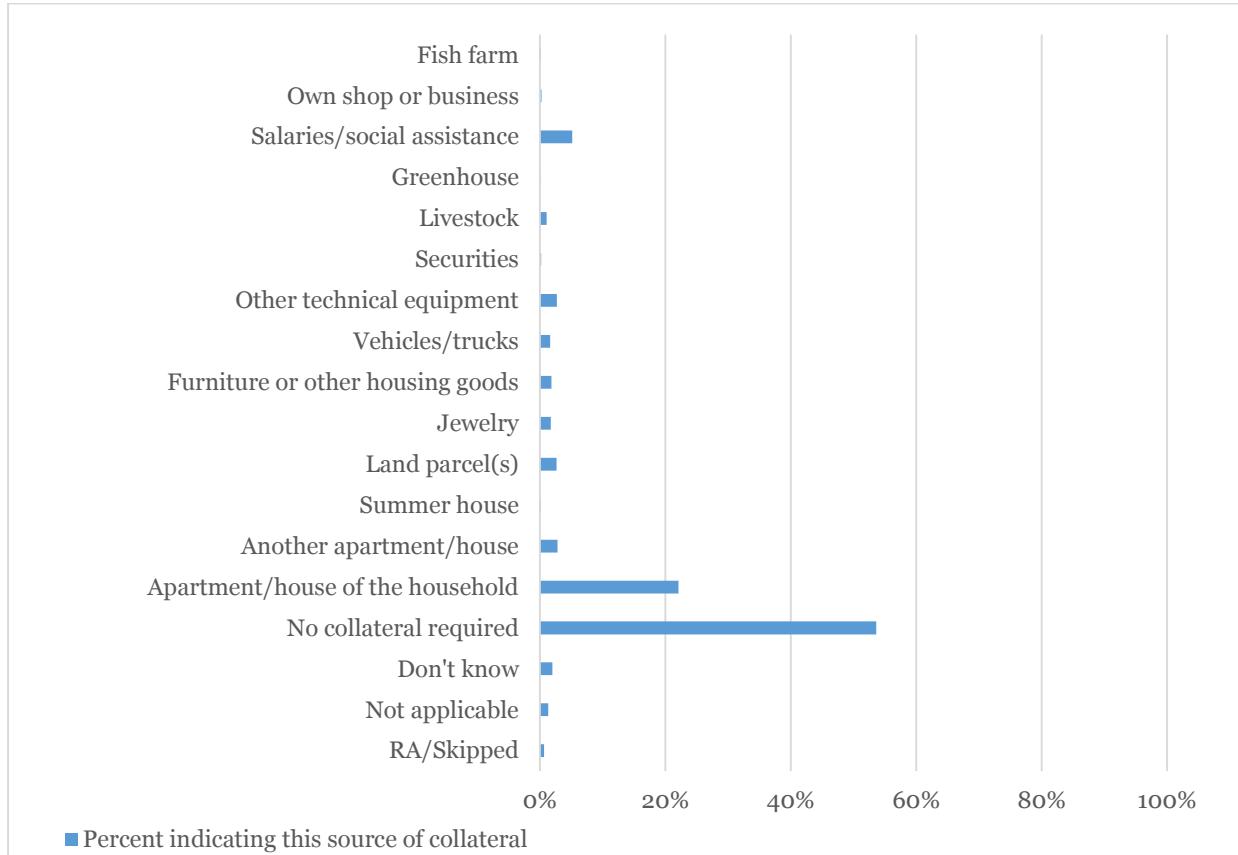
Understandably, many respondents (46%) did not know the annual percentage rate for the loans taken out by themselves or a household member, thus we have very limited information about the types of interest rates paid by households seeking loans. It may have been better to ask for more detailed information about the structure of the loan or to develop a survey-based mechanism for helping respondents to calculate the annual percentage rate. However, this may still require the respondent to have full access to the information and paperwork about the loan to be able to accurately report the annual percentage rate to enumerators.

We did receive more reliable information about the average loan length, which was about 17 months (excluding responses of 'don't know' [5%], 'refused to answer' [less than 1%], or 'not applicable' [about 1%]).

From the data, it looks like many households either have a 1 month loan (8%) or annual loans (12 months: 22%; 18 months: 12%; 24 months: 15%; 36 months: 8%).

No small proportion of these loans were received on a preferential basis (i.e., based on a subsidy from the Ministry of Agriculture). According to respondents, 13% of households received their first loans on a subsidized basis (though about 7% didn't know whether they had or not, and this was not applicable for less than 1% of the loans).

Loans were received for a wide variety of purposes. Among those households taking out at least one loan in 2013, 14% of the first loans were related to agricultural activity (e.g., primary production, processing, etc.).

Figure 3.7.10: First Loan Related to Agricultural Activity (Production, Processing, etc.) (% of Loans)
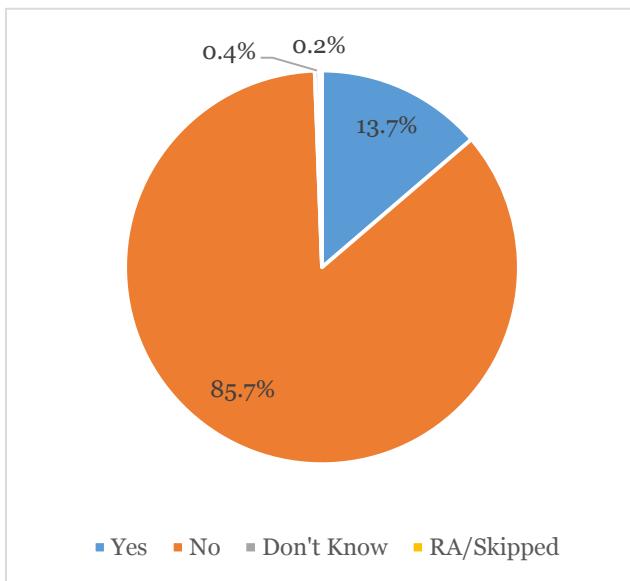
Figure 3.7.9: Loan Received on Preferential Basis (% of Loans)
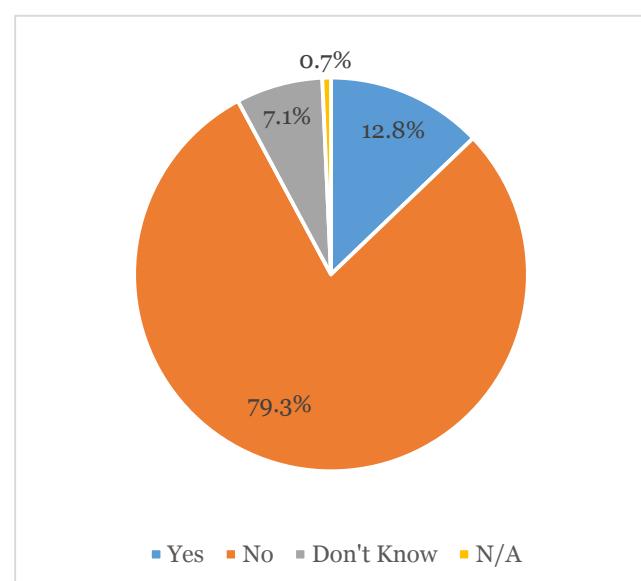
3.8   Subjective Poverty Assessment

In order to conduct a multidimensional analysis of changes to key development outcomes, we also incorporated a subjective poverty assessment into the survey questionnaire. The purpose of these questions is to understand how the households viewed their financial performance during 2013, as well as what they expect their financial situation will be like by the end of 2014. We also asked respondents about how satisfied they are with regard to their financial situation, and how they consider their households to stand financially compared to other households in their community.

Figure 3.8.1: Satisfaction with the Household's Overall Financial Situation
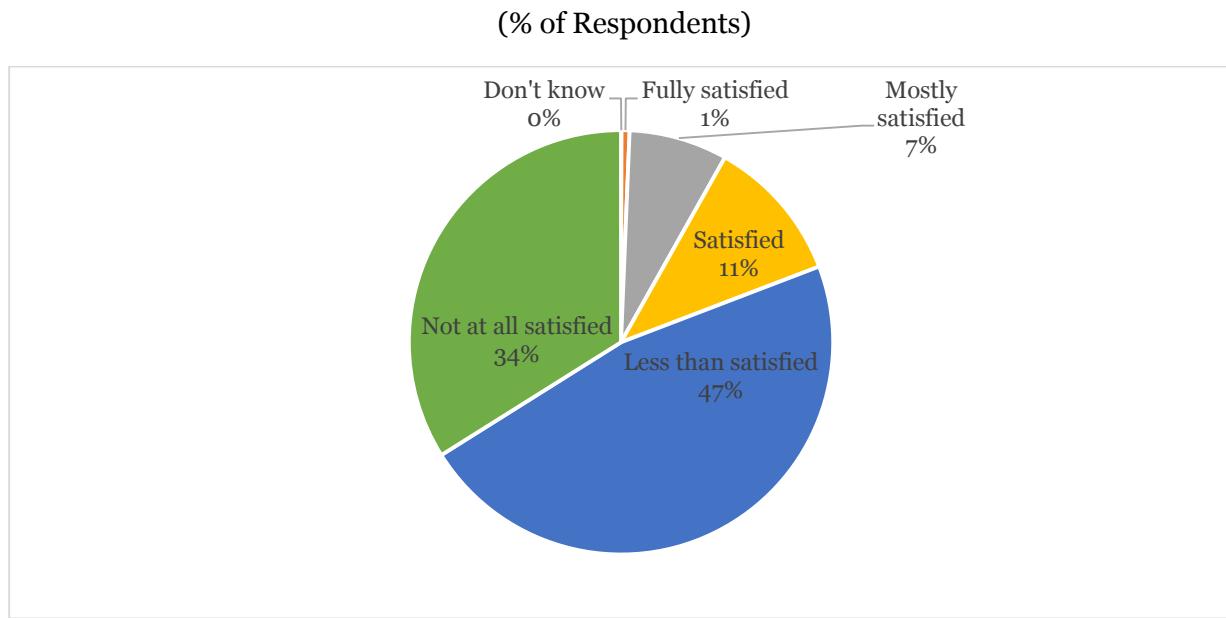
(% of Respondents)

As illustrated in Figure 3.8.1, the majority of the households are less than satisfied or not at all satisfied with their financial situation (81%). Only a small proportion of respondents indicated that they are satisfied (11%) or mostly satisfied (7%). Less than 1% say they are fully satisfied.

The following chart (Figure 3.8.2) shows the differences across municipalities with regard to satisfaction with the household's overall financial situation.

Figure 3.8.2: Satisfaction with the Household's Overall Financial Situation across Districts

(% of Respondents)
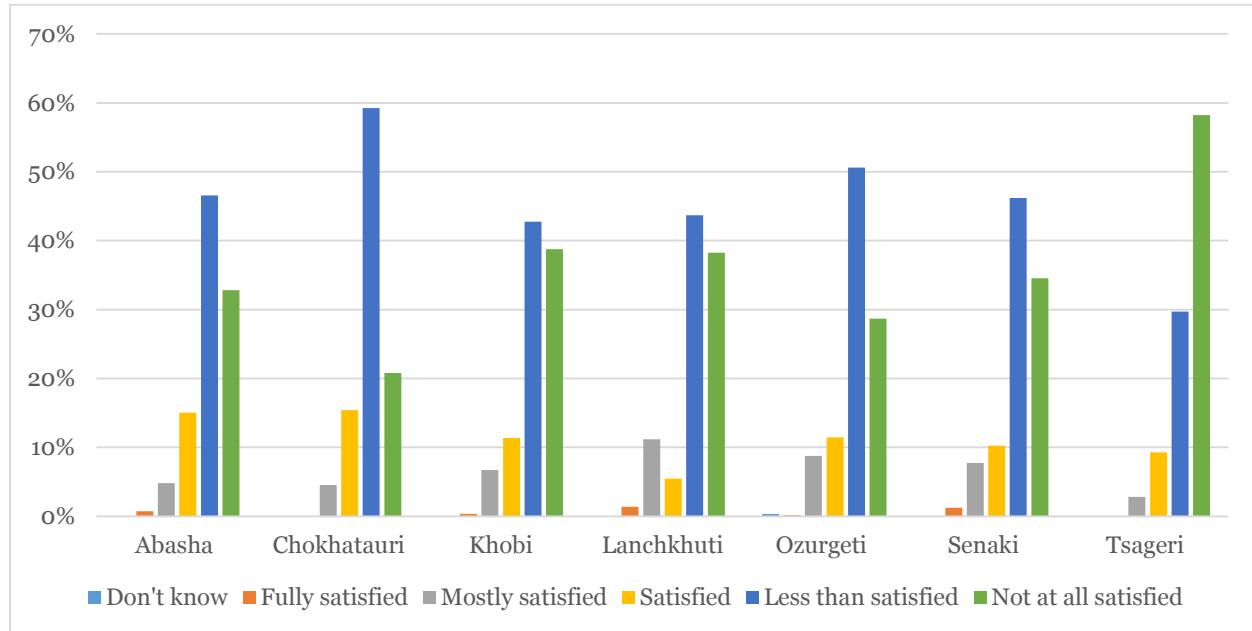
On average, households in Tsageri had the lowest level of satisfaction with their current overall financial situation, and these households were statistically less satisfied than households in the other six districts (at the 1% level).

Figure 3.8.3: Changes to the Household's Overall Financial Situation in 2013

(% of Respondents)
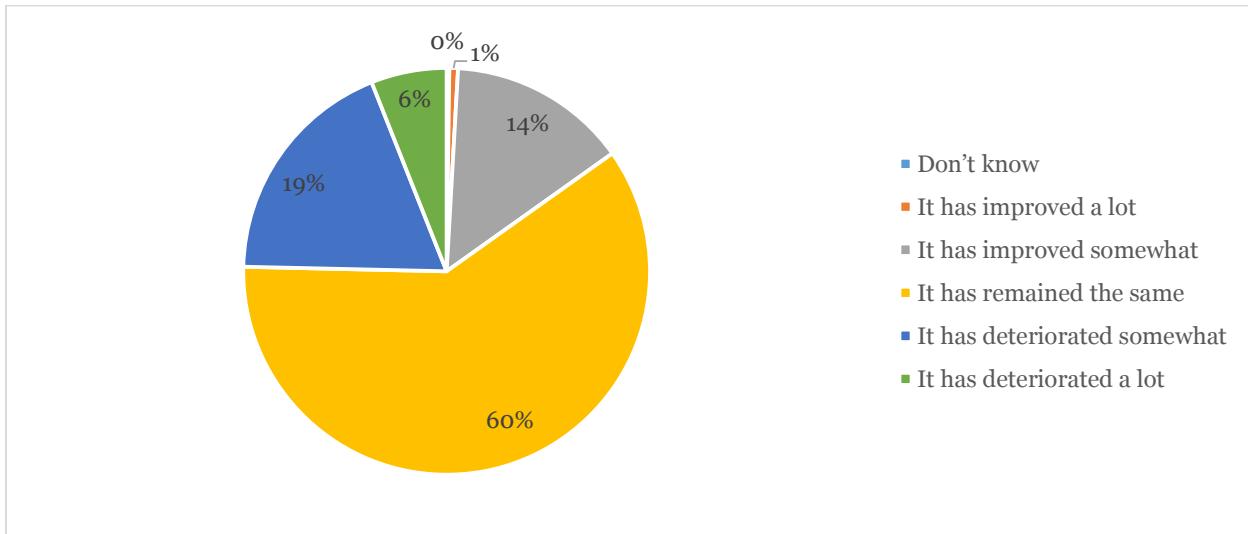
As shown in the above chart (Figure 3.8.3), most households indicated that their financial situation remained the same in 2013 (60%), but a fairly large percentage of households think that their financial situation deteriorated somewhat (19%) or a lot (6%). A number of households said that their financial situation have improved somewhat (14%) or a lot (less than 1%) during 2013.

The following chart (Figure 3.8.4) shows differences across municipalities with regard to this question.

Figure 3.8.4: Changes to the Household's Overall Financial Situation in 2013 across Districts
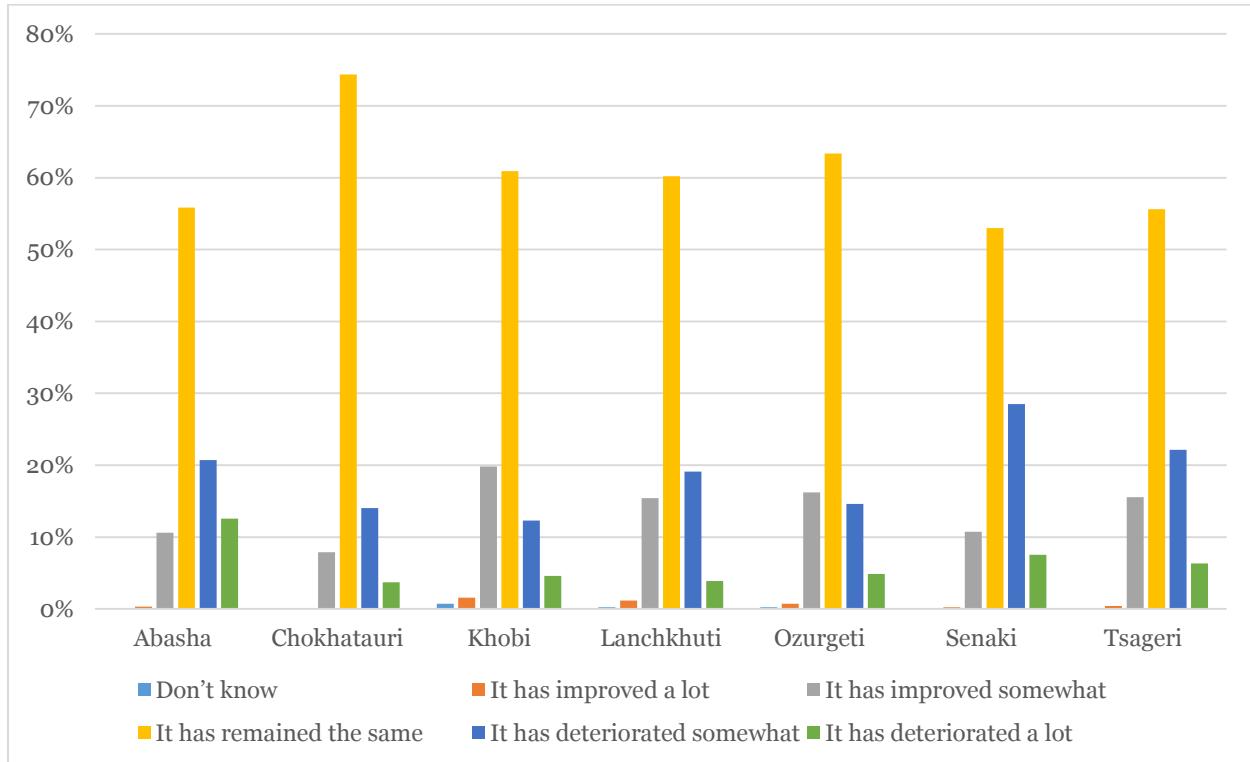
(% of Respondents)

Here we see that most households think their financial situation has remained more or less the same, in particular: Chokhatauri (74%), Ozurgeti (63%), Khobi (61%), Lanchkhuti (60%), Abasha (56%), Tsageri (56%), and Senaki (53%).

Quite a number of respondents indicated that their household's financial situation deteriorated somewhat or a lot: Senaki (37%), Abasha (34%), Tsageri (28%), Lanchkhuti (23%), Ozurgeti (20%), Chokhatauri (18%) and Khobi (17%). These figures were higher than for those respondents who indicated that their household's financial situation had improved somewhat or a lot: Khobi (22%), Ozurgeti (17%), Tsageri (16%), Lanchkhuti (16%), Abasha (11%), Senaki (11%) and Chokhatauri (8%).

When making statistical comparisons across districts, we see that households in Abasha and Senaki experienced on average a decline in the overall financial situation relative to all other districts, while the opposite was true for Khobi. While these differences are statistically significant, the magnitudes were not as large as for the first question we asked.

3.9 Land Use, Land Ownership, and Agricultural Production

As shown in Figure 3.9.1, the vast majority of households were involved in agricultural production to some degree (92%). Across districts, households from Senaki were the least likely to be involved in agricultural production, though 80% of households were still in some way involved in producing agricultural products.

Figure 3.9.1: Household Agricultural Production in 2013

(% of Households)
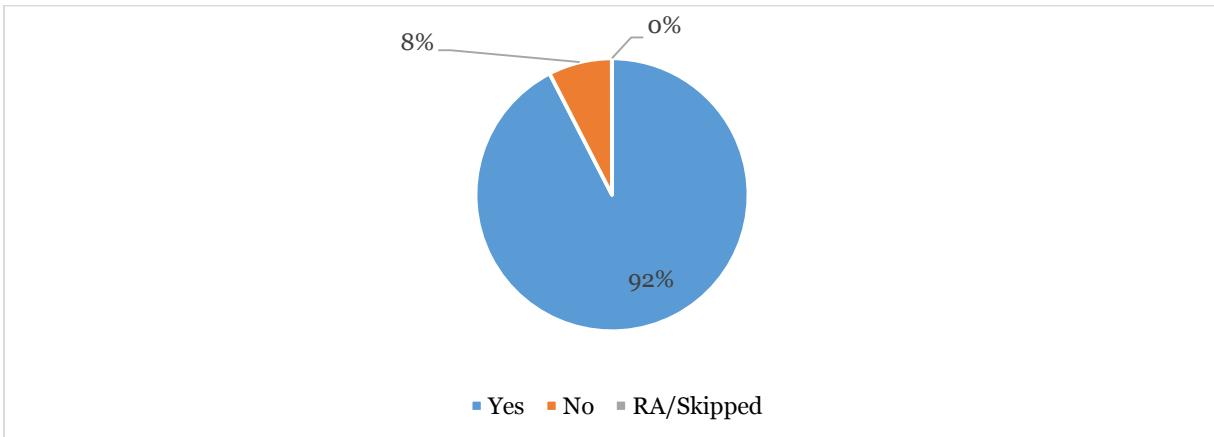
Figure 3.9.2: Household Agricultural Production in 2013 across Districts
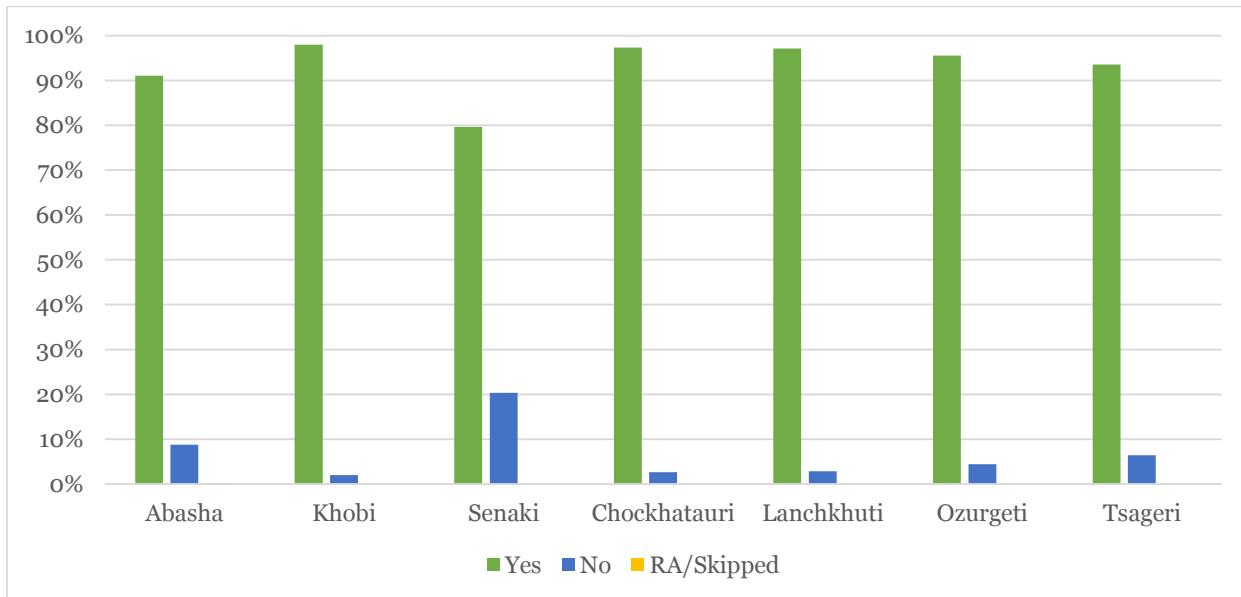
(% of Households)

Even the majority of households living in apartment blocks were involved in agricultural production (64%) to some degree.

Similarly, the vast majority of households surveyed owned or used land in 2013 (96%). This was even the case for those households living in apartment blocks (67%).

Senaki was again somewhat of an outlier with regard to access to land given its population distribution across rural and urban areas, though only to a small degree (see Figure 3.9.4).

Figure 3.9.3: Household Ownership or Use of Land in 2013

(% of Households)
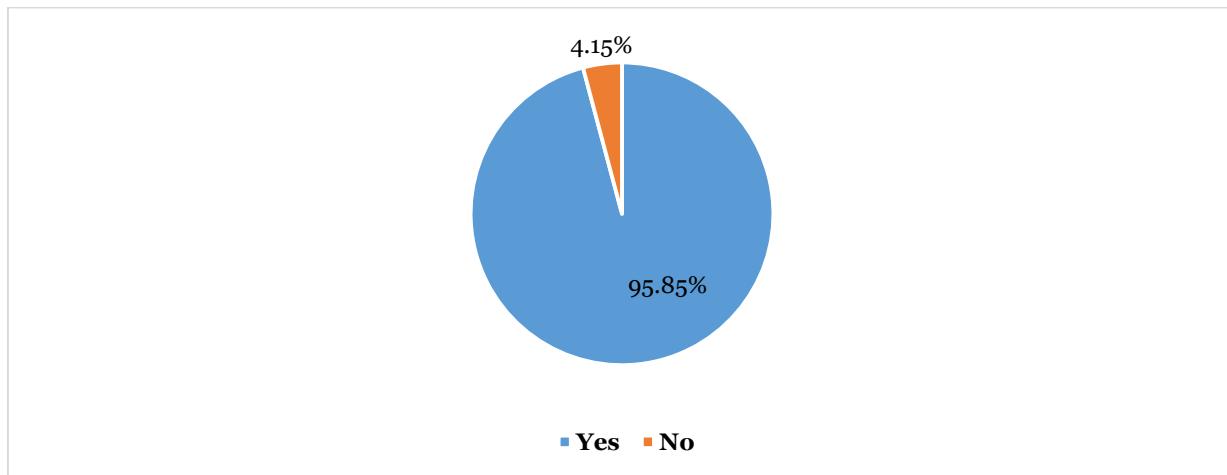
Figure 3.9.4: Household Ownership or Use of Land in 2013 across Districts

(% of Households)
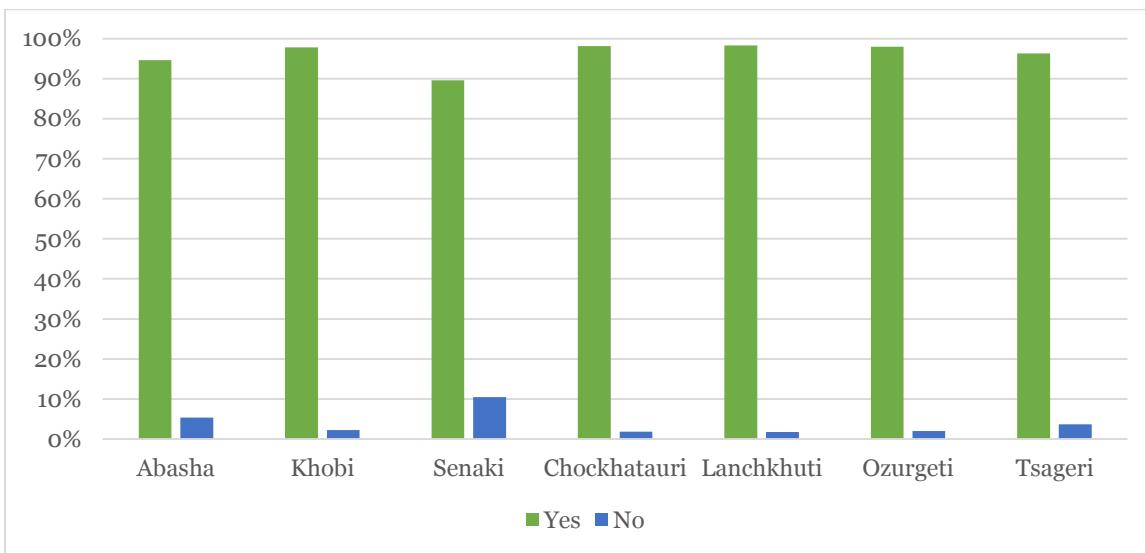
We asked respondents to describe each of their land plots, including the form of access to the plot (i.e., whether it is owned, leased/rented, contributed to a cooperative, etc.).

Even when considering all land plots in total, access to land is fairly limited: the average household had access to 0.75 hectares of land.[20]

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[20] Note that this figure does not incorporate information about access to land for those key respondents who mentioned that their household did have access to land but that they did not know the area of at least one of the land plots (42 out of 2,802 key respondents surveyed).

We then asked each respondent about the form of access to each of their land plots. The vast majority of respondents indicated that someone in the household owned the land plot, though in some cases the household used the plot of land for free. Very few lease or rental transactions took place in 2013 among the households considered here.

Importantly, we also assessed whether a specific land plot is contributed to a cooperative in order to track changes in this indicator over the timeline of the project. Currently, very few land plots are contributed to a cooperative, as shown in Figure 3.9.5.

Figure 3.9.5: Form of Access to Each Land Plots

(% of Households for Each Land Plot)
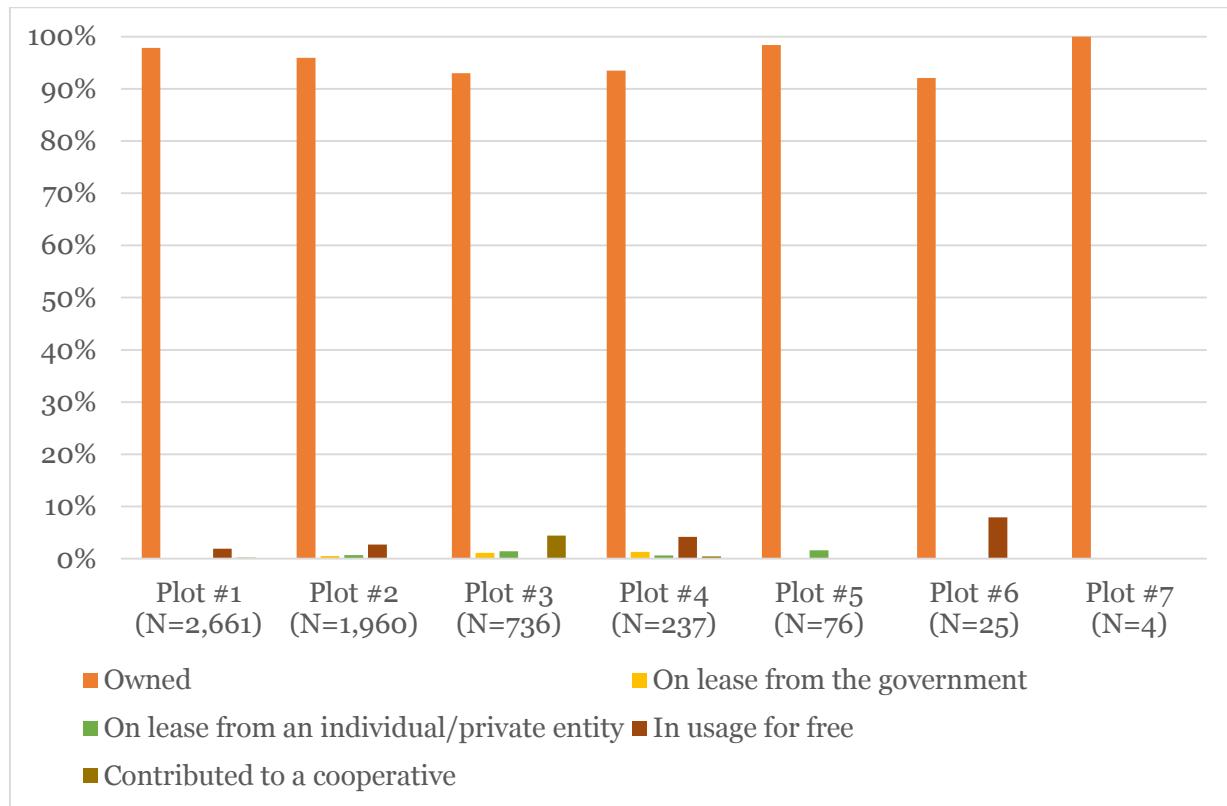
Given the above snapshot of the form of access to land across the project areas, when we turn to total household land ownership (in hectares), we find that the average household owned 0.71 hectares of land. No household in our sample owns more than seven plots of land, and the average number of plots owned by a household is 2. In total, 94% of households owned some amount of land.

The majority of households in our survey owned at least two plots of land, though 25% of households owned just one plot of land (typically the farmstead) and 6% of households owned no land whatsoever (see Figure 3.9.6).[21]

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[21] The category, 'Don't Know," was calculated on the basis of whether the key respondent did not know about the exact size of any one land plot owned by a household.

Figure 3.9.6: Plot Ownership by Households

(% of Households)
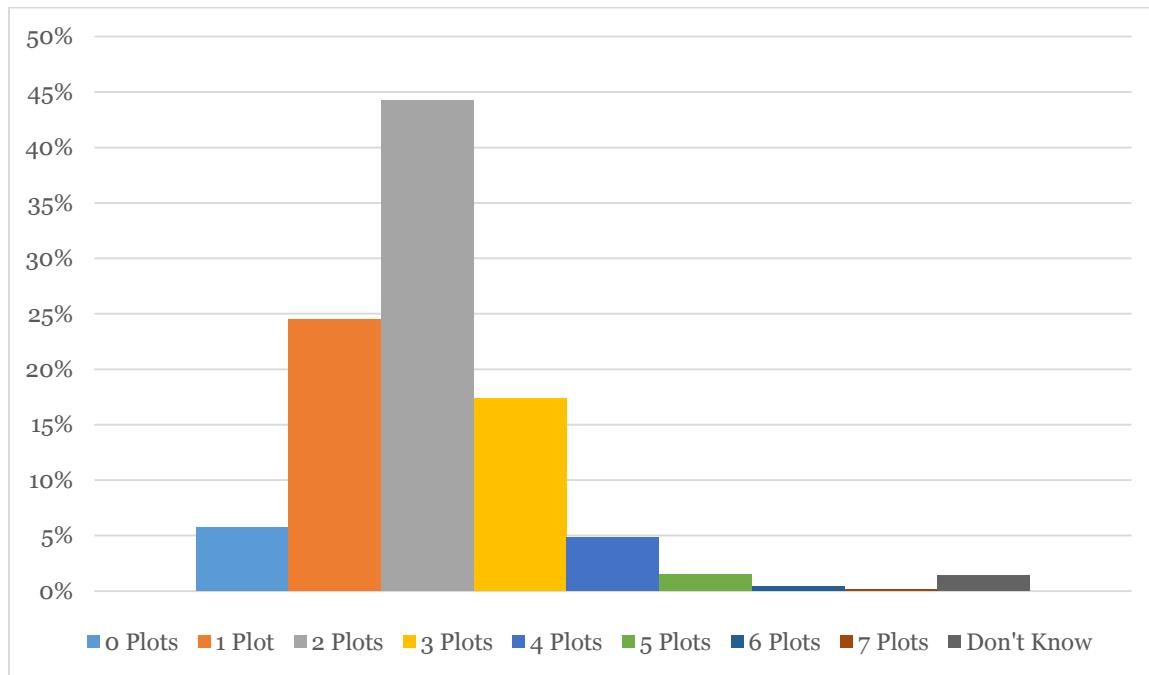
Plot sizes varied considerably, both across and within households. The data suggest that among those households owning some amount of land, the average plot size owned by a household is about 0.37 hectares. [22]

When assessing the distances of the land plots accessed by the household (once again considering any form of access to land), most of the first land plots were listed as 'farmsteads,' so the average plot distances from the household seem to be quite low (1.4 km). However, if we examine the second land plot indicated by the household, which is typically arable land under cultivation, a slightly different story emerges, as the average distance is now 2.9 km. From these figures, it appears that the distances back and forth between the land plots and the farmstead are not significant barriers for agricultural producers, though they still may be challenging for households depending on other constraints related to transportation (e.g., fuel costs, access to transportation, etc.).

As shown in Figure 3.9.7, most respondents indicated that they had certificates or other papers that prove that someone in their household owns each plot of land.

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[22] Note that this figure does not incorporate information about access to land for those key respondents who mentioned that their household did have access to land but that they did not know the area of at least one of the land plots (42 out of 2,802 key respondents surveyed).

Figure 3.9.7: Certificate or Paper Proving Land Ownership

(% of Households for Each Land Plot)
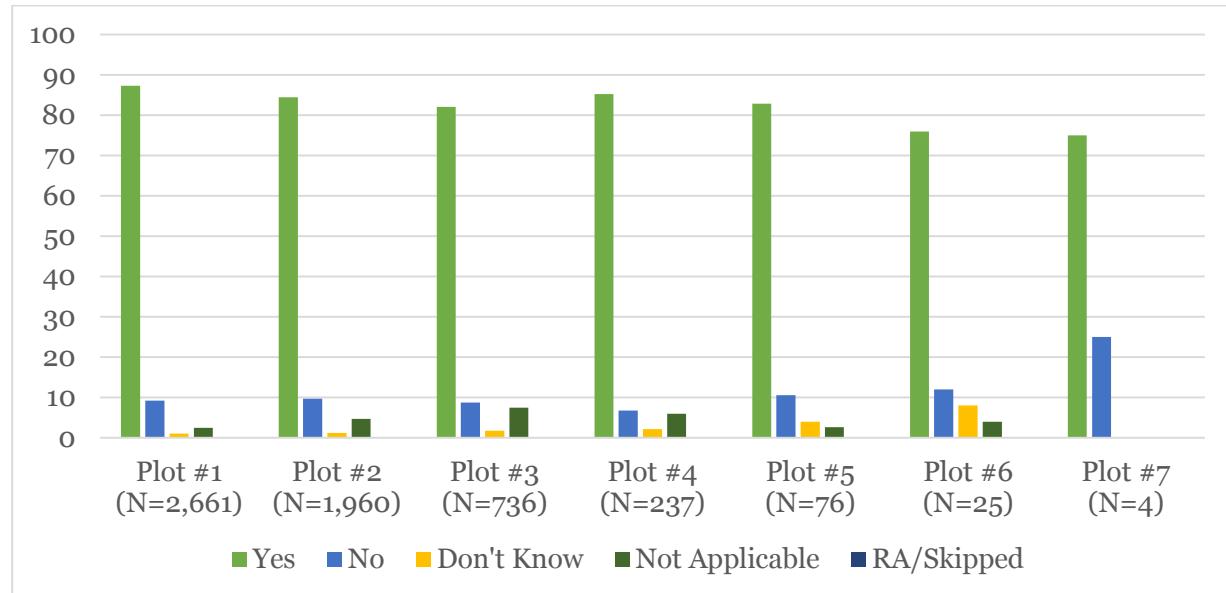
Among those households indicating that there was a certificate or paper proving ownership of a land plot, many had also registered their land plot with the government.

Figure 3.9.8: Land Plot Officially Registered with the Government

(% of Households for Each Land Plot)
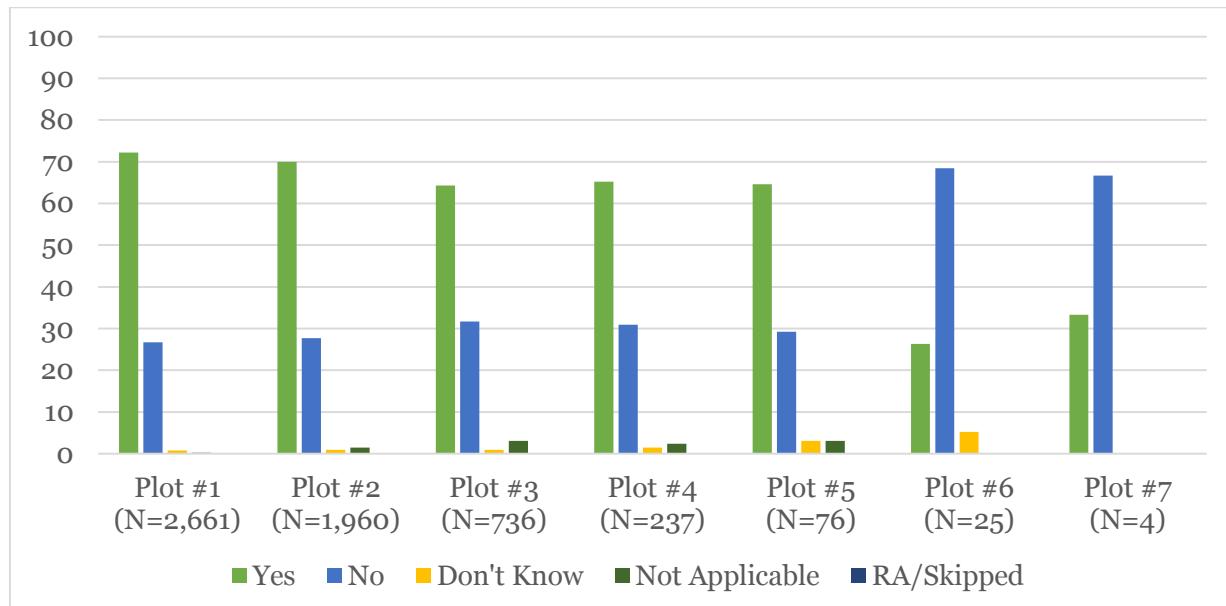
The vast majority of land plots were only used by the household owning it. As Figure 3.9.5 illustrates, this was particularly the case for the first land plot (given that these land plots are typically the homestead, though the sequencing of responses varies so subsequent land plots are also farmsteads). While more research needs to be conducted regarding the forms of joint use of land, the results suggest that at the moment there is little joint agricultural production on land plots in the surveyed areas of western Georgia.

Figure 3.9.9: Joint Use of Land Plots

(% of Households for Each Land Plot)
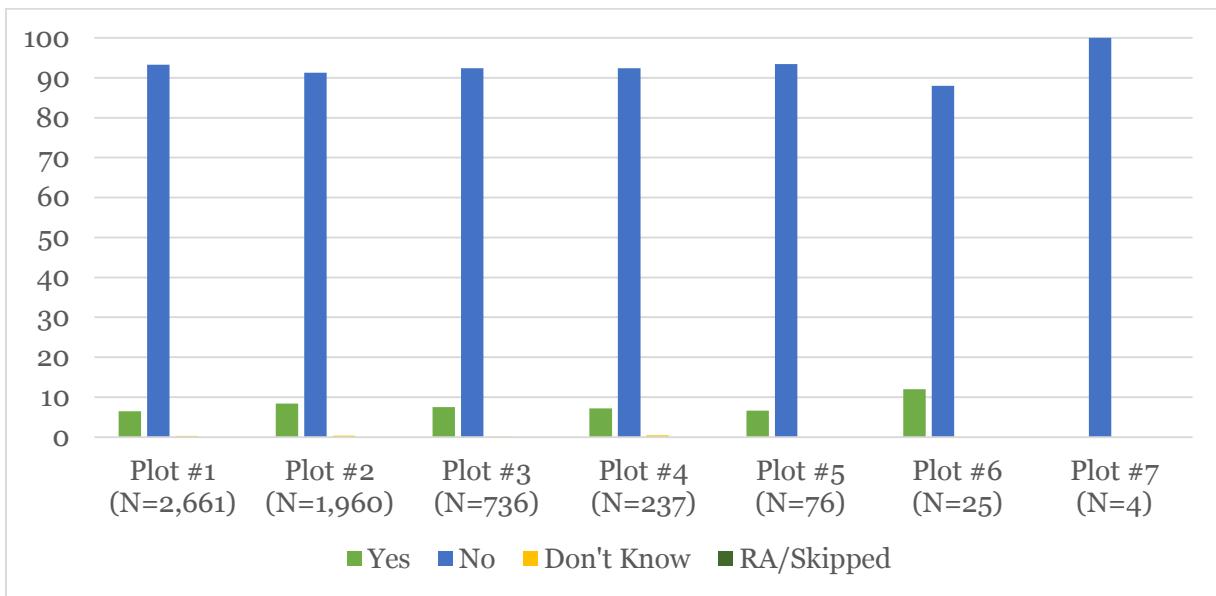
There is considerable variation in the status of each land plot across and within households. Figure 3.9.10 shows how households used (or didn't use) each land plot (regardless of the form of ownership or use).

Figure 3.9.10: Land Plot Status

(% of Households for Each Land Plot)
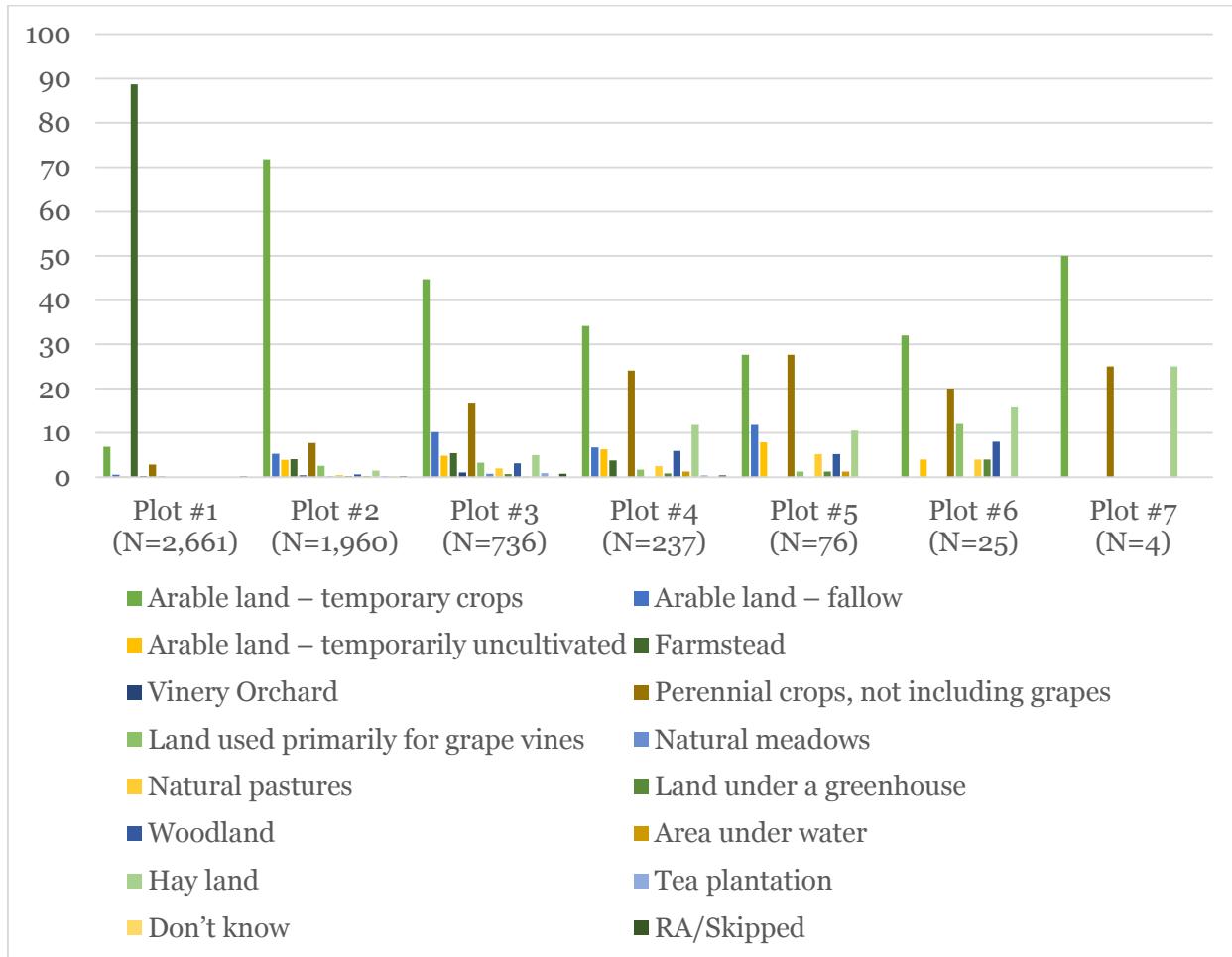
The first land plot mentioned by respondents was the farmstead, though this was the case for some of the subsequent land plots as well. Arable land used for temporary crops was a common response, as too was land used for perennial crops like hazelnuts or bay leaves (excluding grapes from the consideration).

Notably, only a few land plots were under greenhouses. This coincides with the finding that many households indicated that weather shocks were of primary concern when it came to agricultural production.

When asked whether they use each land plot for farming, most respondents indicated that they did, though fewer and fewer households answered in the affirmative for each additional land plot considered (see Figure 3.9.11).

Figure 3.9.11 Land Plot Used for Farming

(% of Households for Each Land Plot)
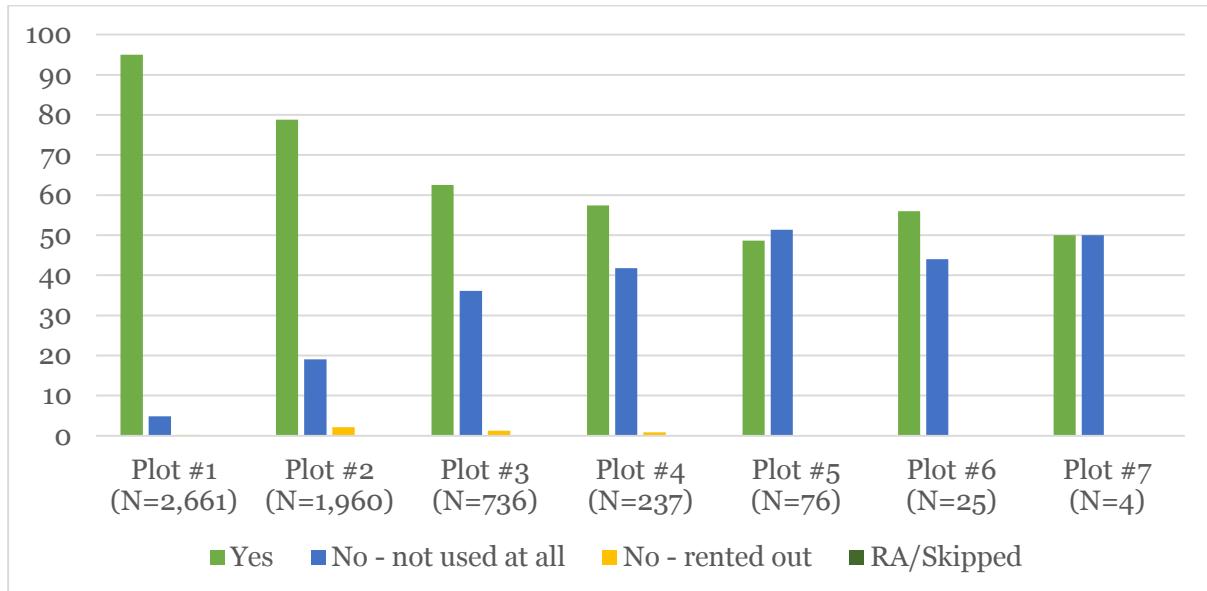
Only a very small percentage of respondents indicated that their household did not use a land plot for farming because they had rented it out, again confirming that only a few rental or lease transactions are taking place (at least among the households surveyed).

When we asked respondents why they didn't use a plot of land for farming, most indicated that they were physically unable to cultivate the land. Others mentioned that the land area was too small to cultivate, that it was useless for agricultural activities, or that they simply had no interest in cultivating the land. Some also mentioned that they did not possess the necessary inputs for producing on the land, or that there were issues related to the security of the land tenure (e.g., because of

Transportation barriers and problems with land irrigation and drainage did not seem to be important barriers to agricultural production on land plots not used for farming in 2013.

Use of Mineral or Organic Fertilizers

Most respondents indicated that their household applied mineral or organic fertilizer to their land plots in 2013 (see Figure 3.9.12).

Figure 3.9.12: Use of Mineral or Organic Fertilizers

(% of Households for Each Land Plot | Land is Used for Farming)
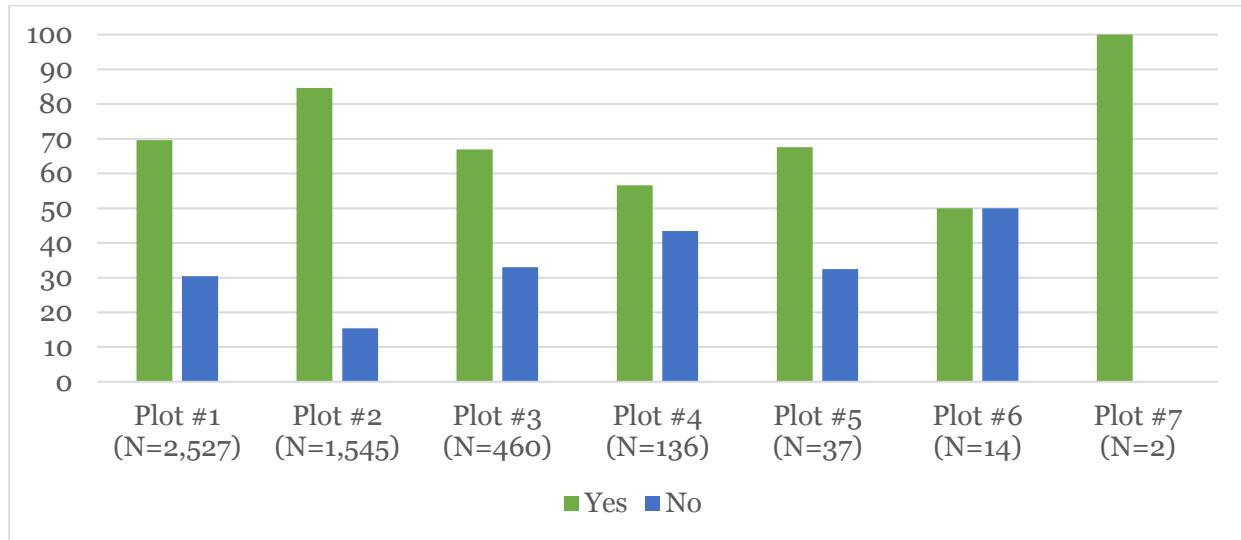
We also investigated the degree to which households produce a diversified crop mix. For the first plot owned or used by households, the average household produced about seven different crops, while for the second plot owned or used by households, the average household produced 1-2 crops. These results are intuitive when considering that the first land plot is the farmstead and crops are

often used for consumption purposes while the second land plot is typically used for producing animal feed (e.g., corn) or for more commercial purposes.

Figure 3.9.13: Number of Crops Harvested on the First Land Plot

(% of Households)
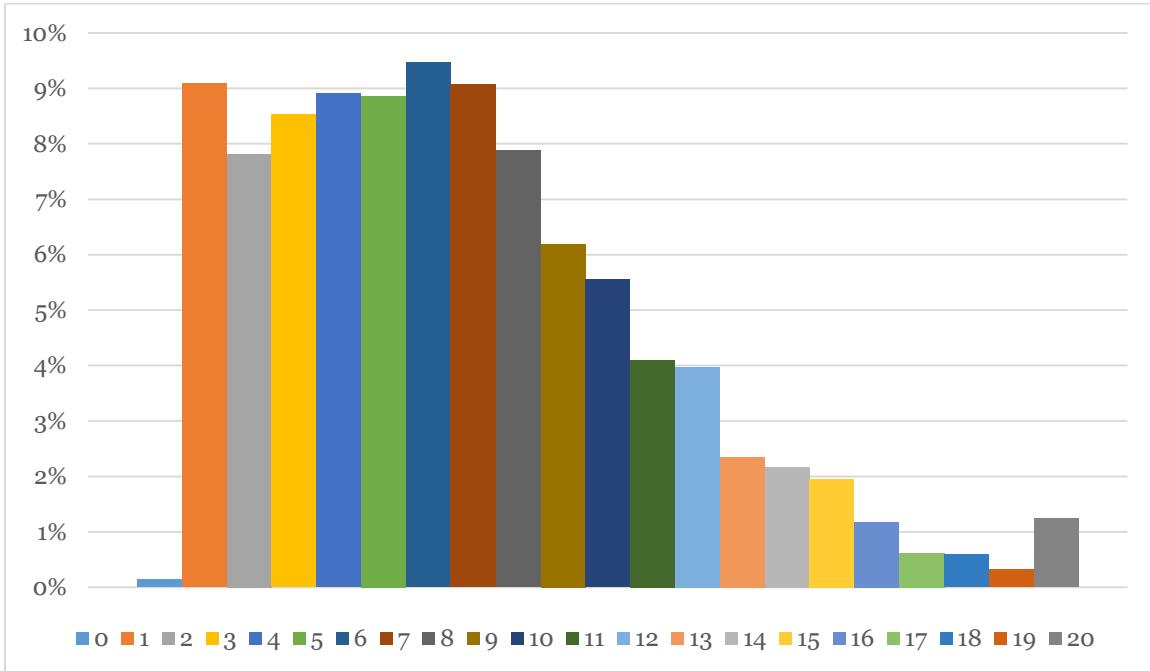
Figure 3.9.14: Number of Crops Harvested on the Second Land Plot

(% of Households)
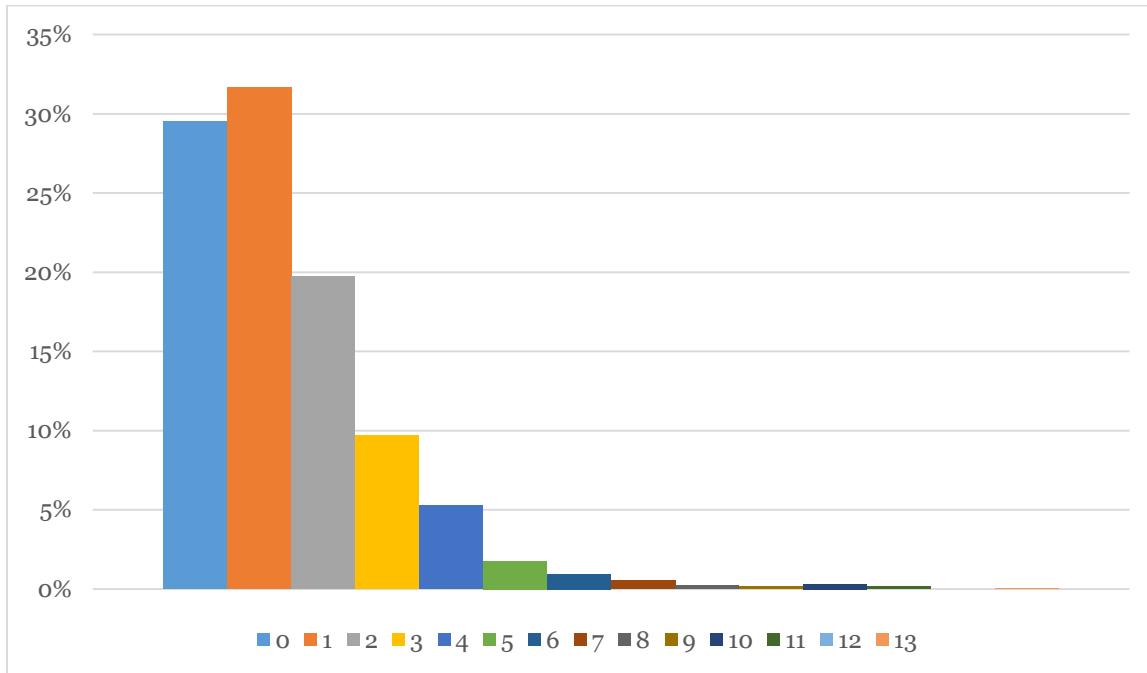
In Figure 3.9.15, we present the major commodities being produced across the project districts. This figure shows the percent of households producing each commodity. Interestingly, corn/maize production is the most commonly produced commodity across all seven districts, followed closely by hazelnuts, cucumbers, tomatoes, grapes, apples, herbs, pears, beans, and animal feed.

Below, we will explore some of the production and marketing practices of specific commodities (e.g., hazelnuts, grapes, potatoes, etc.). Additional analysis of specific agricultural commodities is available upon request.

Figure 3.9.15: Major Commodities

(Percent of Households Producing Each Commodity)
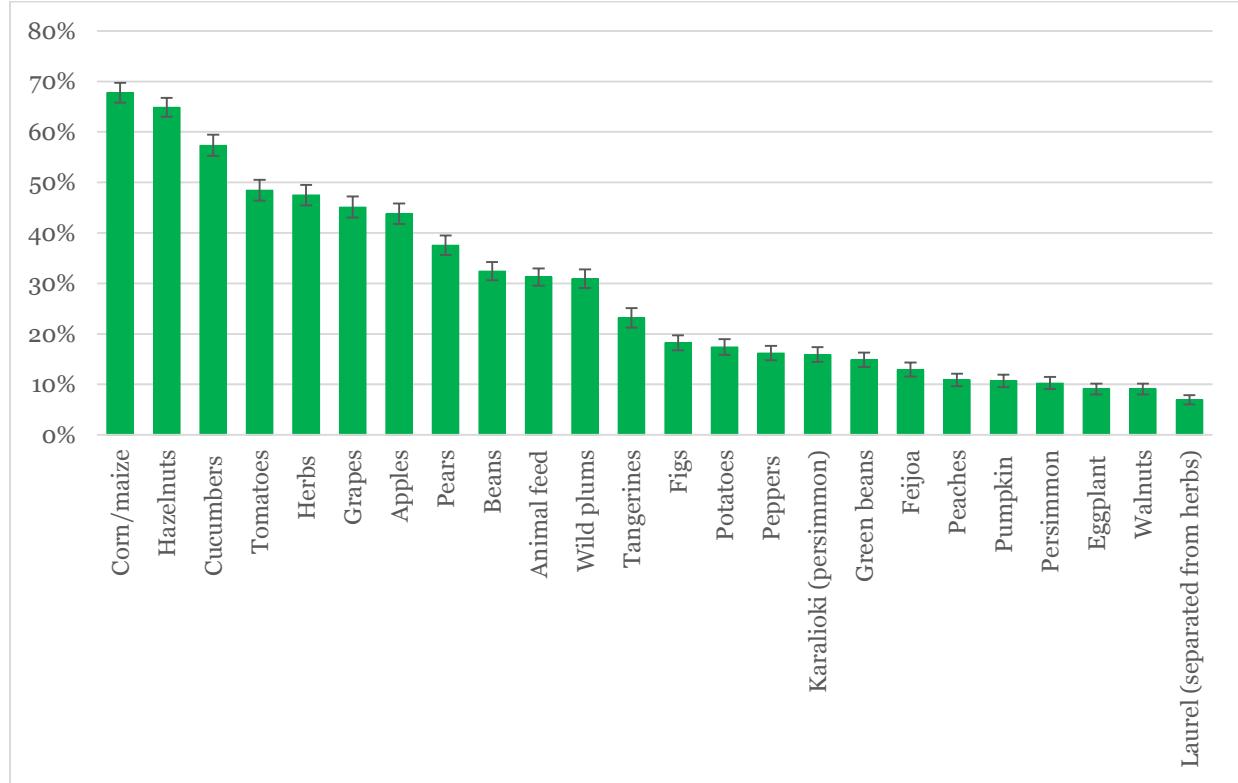
It's noteworthy that less than 1% of all households across the seven districts are engaged in tea production. Most of the tea production in Guria takes place on large plantations, which illustrates why this is the case.

Conversely, the majority of households in each district are producing corn, which is often used for household consumption or for animal feed (see Figure 3.9.16). There is surprisingly little variation across districts in the percentage of households producing corn. Even in Senaki, where about half of the households surveyed were classified as being in a city, slightly more than 60% of households were involved in corn production in 2013.

Figure 3.9.16: Corn Producers

(Percent of Households)
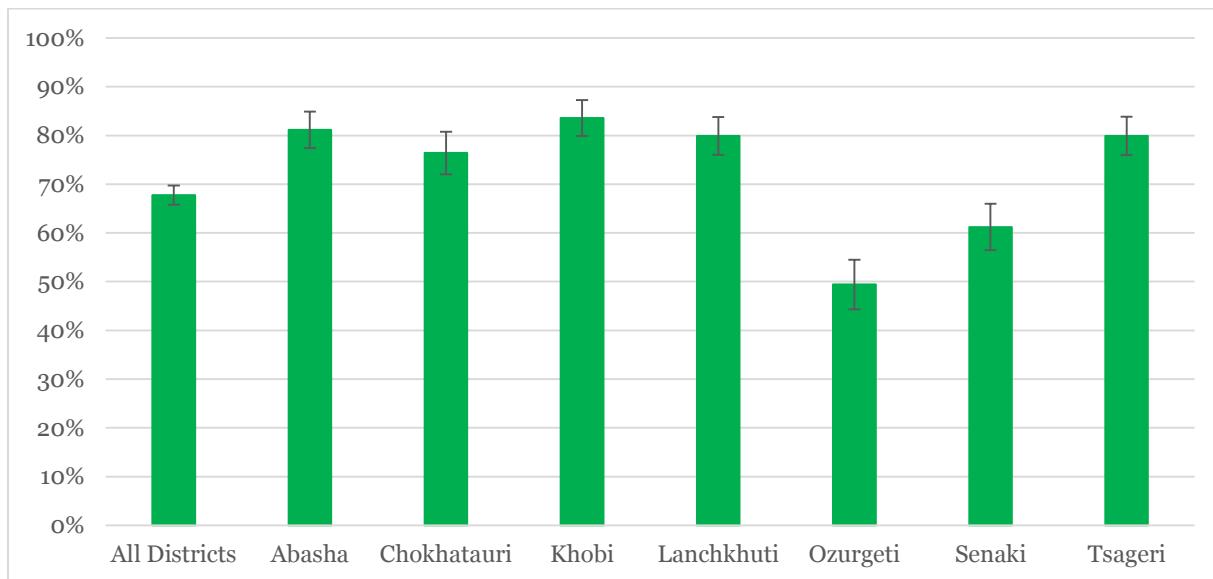
What's more, there are marked differences in the percent of households producing each commodity across districts. Consider potato production, for instance. As shown in Figure 3.9.17, Lanchkhuti is a major potato-producing district, while Tsageri scarcely produces potatoes at all (at least at the household level). Even within Guria, there are remarkable differences in the percent of households producing potatoes across districts.

Figure 3.9.17: Potato Producers

(Percent of Households)
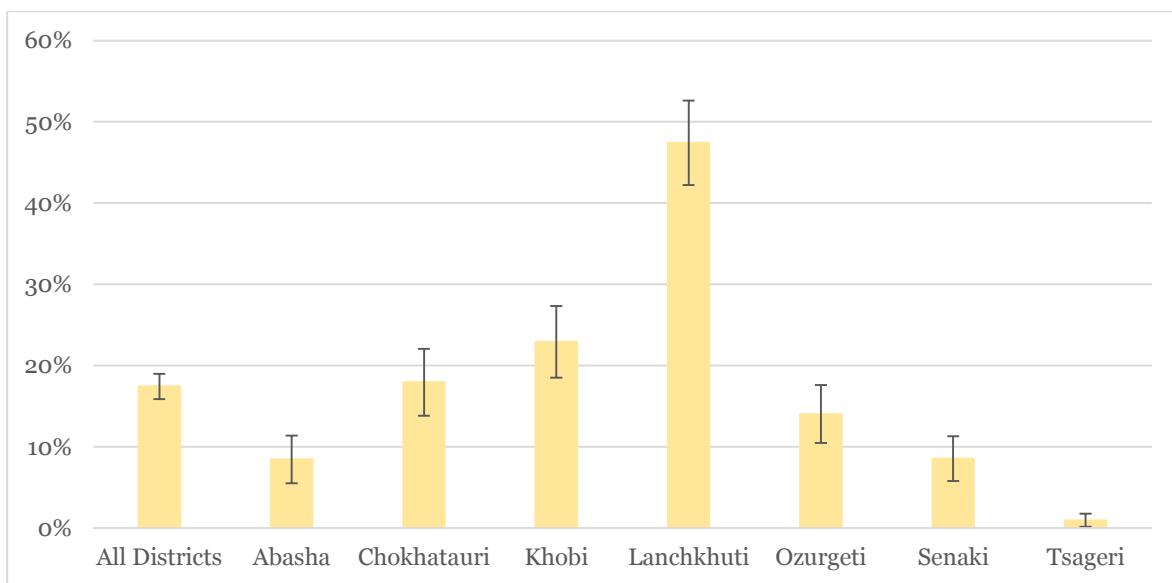
Many households in Tsageri are engaged in grape production. As Figure 3.9.18 illustrates, this is also the case for Lanchkhuti, which may come as a surprise.

Figure 3.9.18: Grape Producers

(Percent of Households)
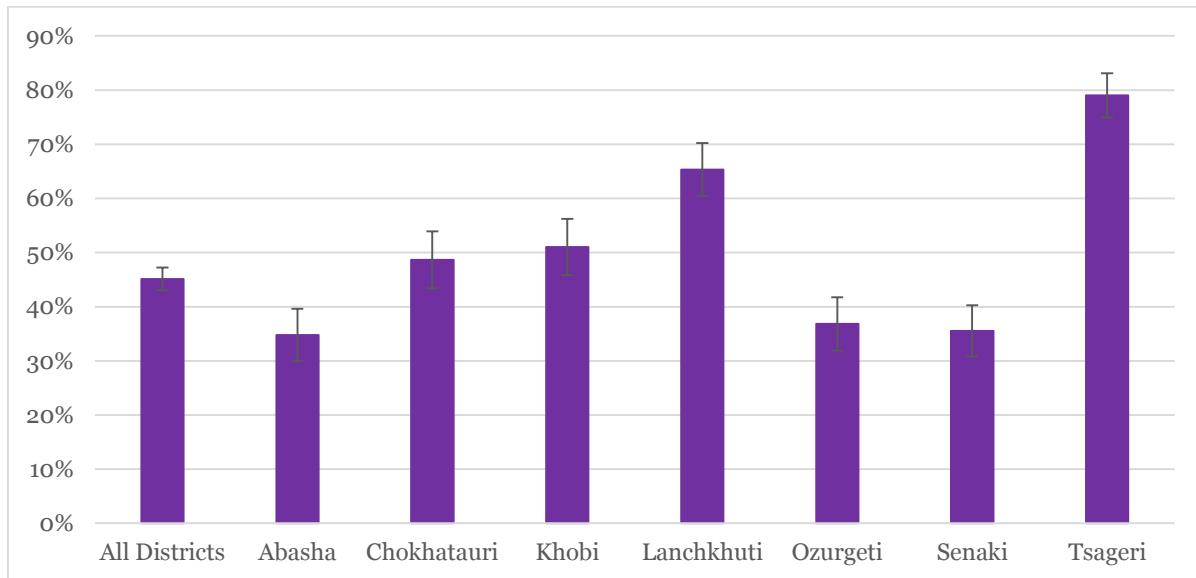
For major commodities like hazelnuts, there is less variation across districts, though households in Senaki and Tsageri appear to be less oriented around hazelnut production.

Figure 3.9.19: Hazelnut Producers

(Percent of Households)
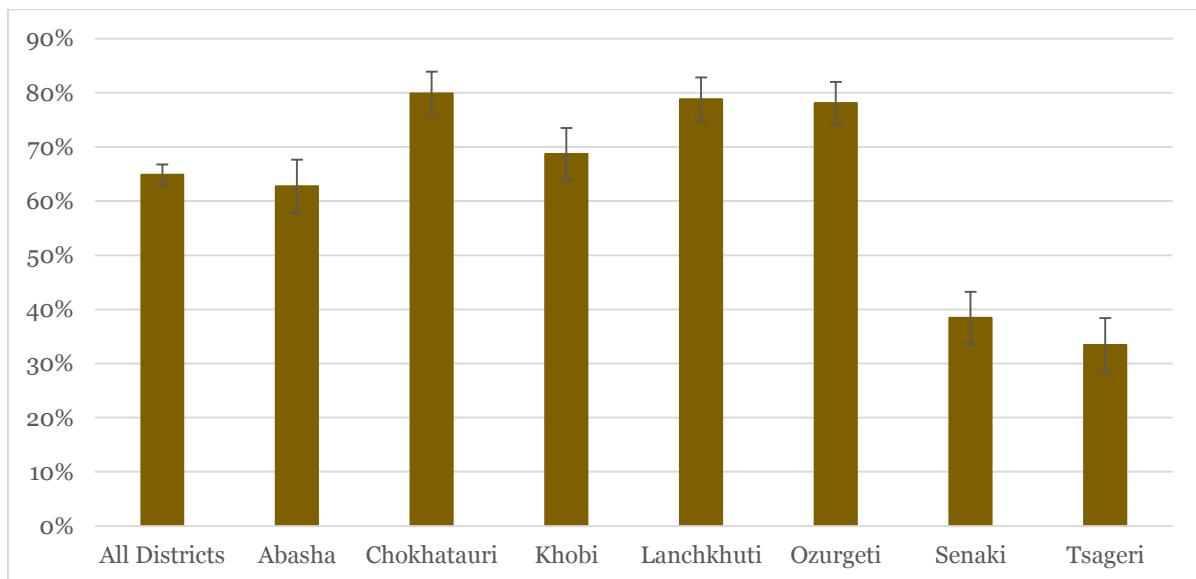
As Figure 3.9.20 illustrates, hazelnut-producing households in Ozurgeti have the highest average hazelnut production volume, with about 375 kilograms of production in 2013.

Figure 3.9.20: Average Hazelnut Production Volume (kg)

(Among Hazelnut-Producing Households)
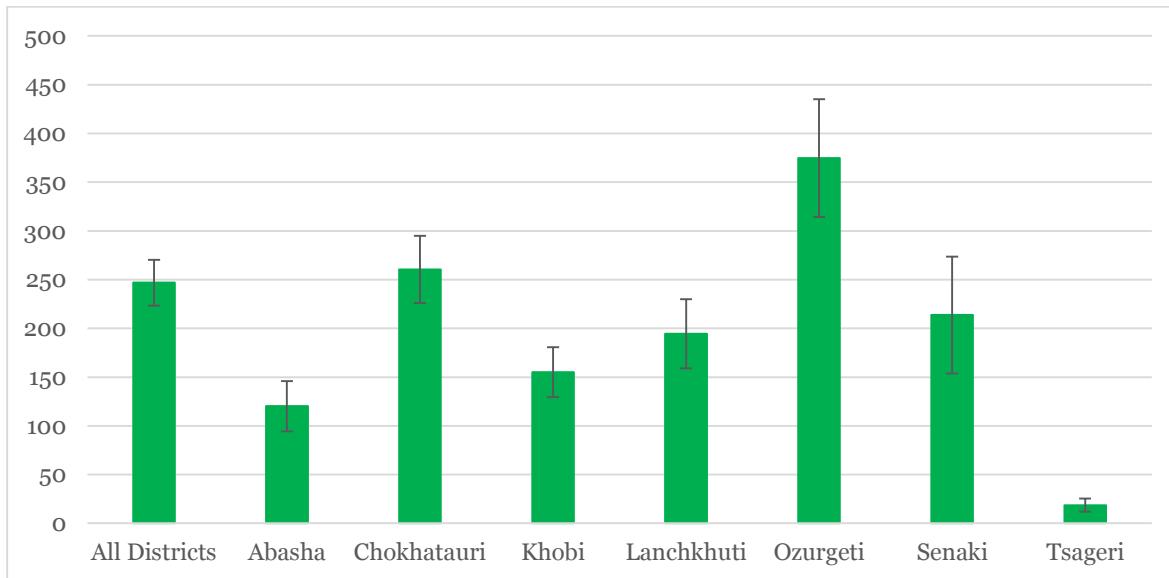
The next figure illustrates the average proportion of hazelnuts sold to the market by hazelnut-producing households across districts. Interestingly, this chart almost exactly matches that above – in other words, there is a high correlation between the volume of production and the average proportion of the product sold to the market. This will be interesting to explore across more commodities.

Figure 3.9.21: Average Proportion of Hazelnuts Sold to the Market

(Among Hazelnut-Producing Households)
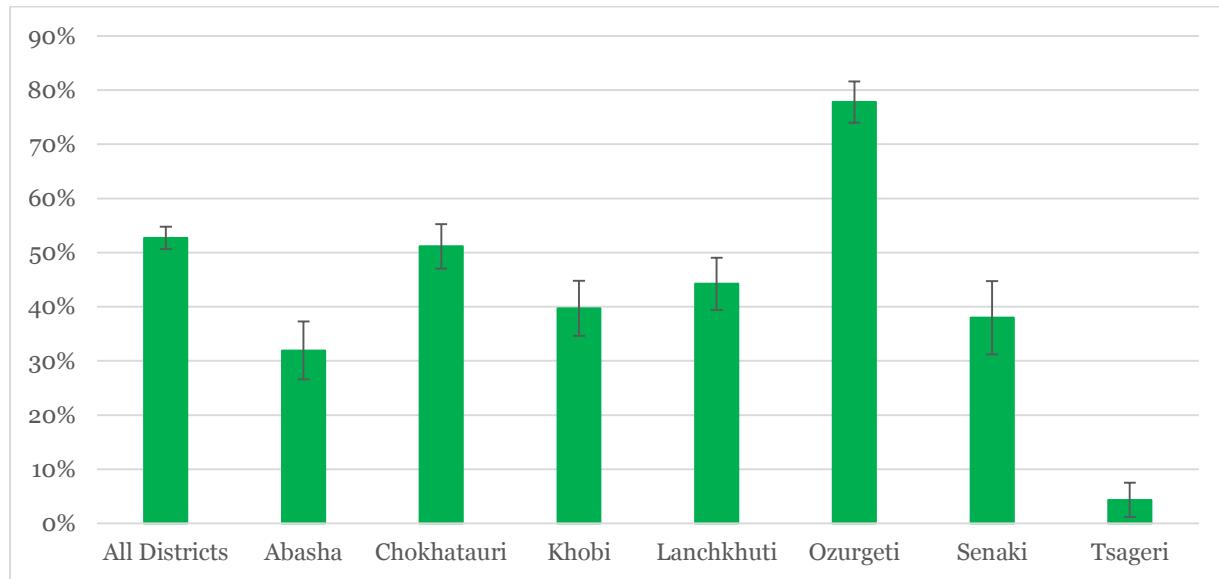
Among those households producing hazelnuts and selling to the market, there is marked variation across districts in the predominant marketing channels, as illustrated by Figure 3.9.22. In particular, in Ozurgeti, the vast majority of households are marketing their hazelnuts via local traders or collectors, whereas in Lanchkhuti households are more likely to market their hazelnuts to consumers at the farm gate. In practice, these different purchasing agents may be difficult to separate, as household respondents might view local traders or collectors as 'consumers' at the farm gate.

Figure 3.9.22: Hazelnut Marketing Channels

(Among Households Producing and Marketing Hazelnuts)
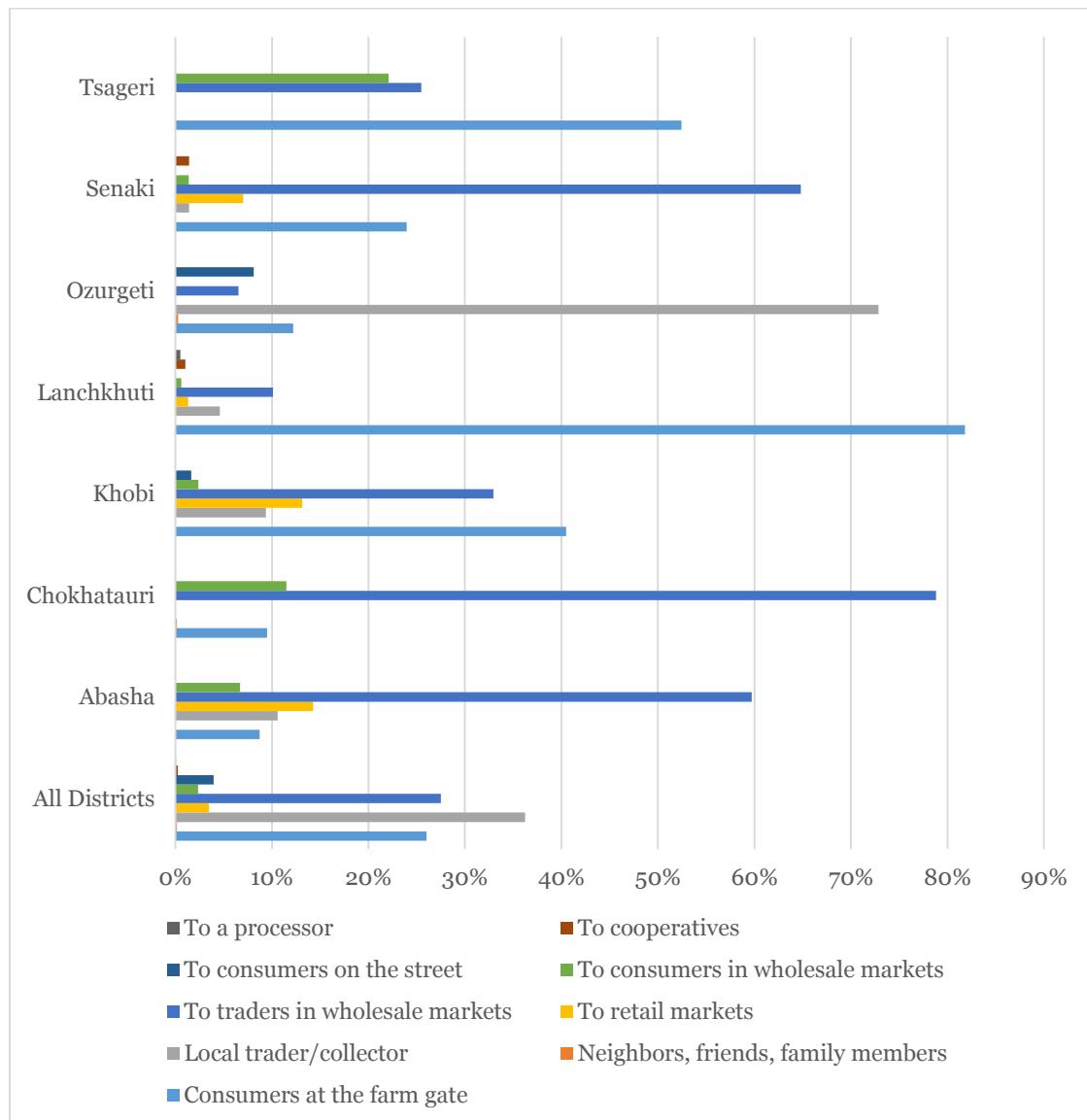
Our baseline survey dataset contains data on production, sales, and marketing for each commodity in question and additional calculations are available from the authors upon request.

3.10 Livestock, Fish, Poultry, and Bee Hive Ownership

Across districts, 77% of households owned livestock, fish, poultry, or bee hives in 2013. As shown in Figure 3.10.1, the majority of households in each district owned livestock, fish, poultry, or bee hives.

Figure 3.10.1: Livestock, Fish, Poultry, and Bee Hive Ownership across Districts
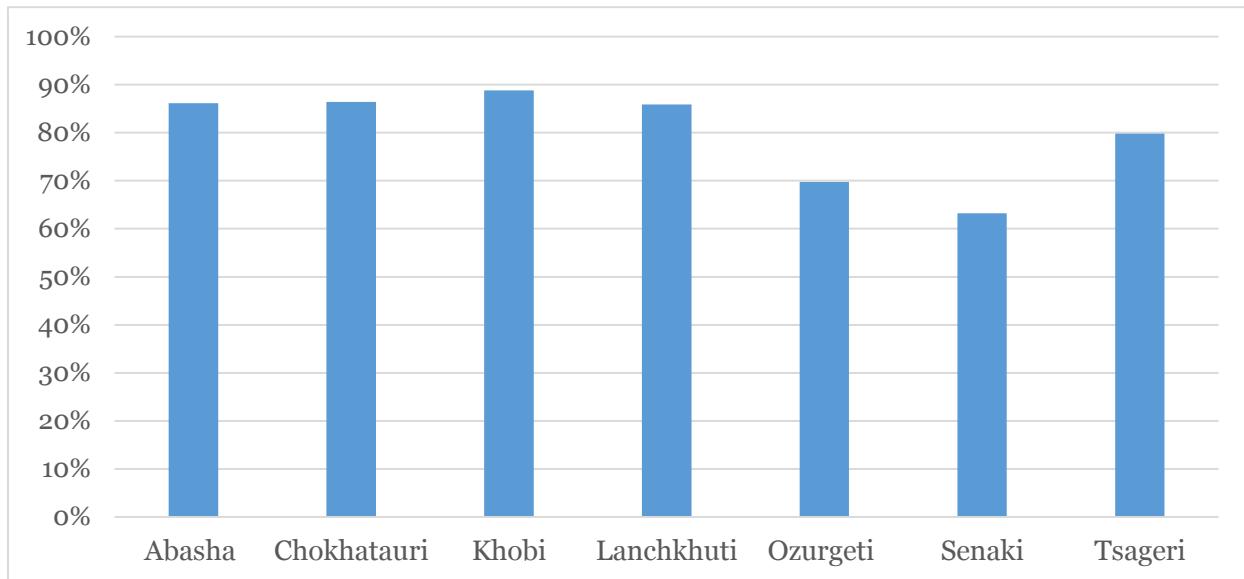
(% of Households)

In each district, many households owned poultry, cows, or pigs in 2013 (see Figure 3.10.2). What is perhaps surprising is the relatively small proportion of households involved in beekeeping across the seven districts. Even in Tsageri, fewer than 10% of households were involved in beekeeping.

Figure 3.10.2: Livestock, Fish, Poultry, and Bee Hive Ownership across Districts
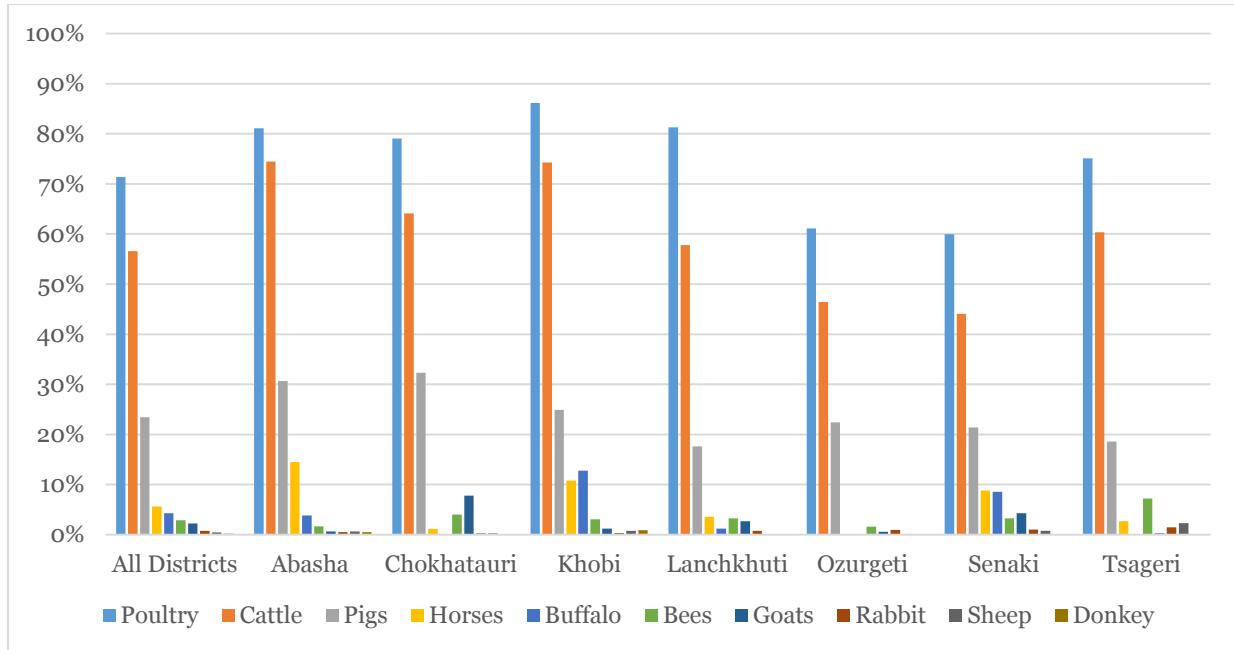
(% of Households)

Below, we will explore some of the production and marketing practices among households for specific animals (e.g., cattle, cows, poultry, pigs, etc.). Additional analysis of specific livestock sectors is available from the authors upon request.

At the end of 2013, among those households who had any kind of livestock, 70% had at least one cow. Most of these households had only one cow (54% of households) though a large proportion of households had exactly 2 cows (24%). The maximum amount of cows owned by one household in our dataset was 20. The mean was about 2 cows.

3.10.1 Marketing of Livestock and Livestock Products

Most of the livestock sold alive were relatively young, followed by cows and bulls. The average price for a young calf was about 500 GEL, while the average prices for a cow and bull were about 1,000 GEL and 1,100 GEL, respectively.

Cheese was the main diary product which was sold (32%) from total cheese production produced by households which owned cows. Most of the cheese was sold directly to traders in wholesale markets (64%), to consumers at the farms gate (10%), to retail markets (8%), to local traders/collectors (8%) and to consumers in wholesale markets (7%).

The most popular cheese varieties in 2013 were Imeruli and Sulguni. There are significant differences across municipalities. Sulguni is the most popular cheese variety in Samegrelo districts given that this cheese originates from this region of Georgia.

3.11 Production and Marketing Constraints

It's well-established that smallholder farmers participate in agricultural product markets in a variety of ways. They may sell agricultural products to local traders, directly to consumers along the roadside, or they may transport their own agricultural products to wholesale markets, for instance.

Nearly six decades ago, economist Peter Bauer set out to investigate marketing practices among smallholder farmers in West Africa. His field research highlighted the importance of local traders for helping farmers make the move from subsistence agricultural production to production for the market and wider exchange relations. He argued that "contacts through traders and trade are the prime agents in the spread of new ideas, modes of behavior, and methods of production. External commercial contracts often first suggest the very possibility of change, including economic improvement" (Bauer, 2000: 8). Thus, his research highlighted that in addition to the static gains from trade, there were also dynamic gains arising from changes in economic behavior and entrepreneurial awareness due to exchange.

In the context of agriculture and rural development in western Georgia, we also wanted to explore the 'Bauer hypothesis' about the role of traders in promoting agriculture and rural development. Based on his observations, he wrote that "in emerging economies the activities of traders promote not only the more efficient deployment of available resources, but also the growth of resources" (Bauer 2000: 4).

What is evident from our dataset is that the majority of households are growing and harvesting crops for own consumption (or for feed) rather than for the market.

When producing for the market, many households are dependent on local traders for getting their harvested crops to the market, though they also sell their products directly to traders in wholesale markets. Among those households producing for the market, many were also selling directly to consumers at the farm gate.

Thus far, almost no households producing for the market sold their products to a cooperative or a farmer's association, nor directly to consumers in wholesale markets or on the streets, further illustrating their reliance on local traders for getting their products to the market.

With regard to the 'Bauer hypotheses', among those households producing agricultural products and receiving market price information from someone (46%), many had received such information from a neighbor or friends (91%), from family members outside the household (56%), from those in retail markets (49%) and wholesale markets (49%), and from consumers at the farm gate (35%). In addition, about 52% of these households received market price information from a local trader.

Other actors played much less significant roles in transmitting market price information to these households. Once again considering only those households who had received market price information from someone, it seems that agricultural extension officers (6%), government representatives (4%), NGOs (2%), cooperatives and farmers' associations (3%), food processors (1%) and other farmers [aggregators] (8%) played relatively small roles in transmitting market price information.

Interestingly, when we asked whether the respondent or anyone else in the household had received new ideas about agricultural activities, production, marketing, or market opportunities from anyone, the vast majority of respondents stated that they hadn't (93%). This suggests that the more dynamic effects of traders in promoting agricultural and rural development identified by Bauer may be more muted in this context than was the case in West Africa when Bauer was conducting his research.

3.12 Agricultural Cooperatives

About 42% of respondents indicated that they had heard about the recent initiative to support the establishment of agricultural cooperatives across the country.

Figure 3.12.1: Respondents Who Have Heard about the Recent Initiative by the Ministry of Agriculture to Support the Establishment of Agricultural Cooperatives across the Country

(% of Respondents)
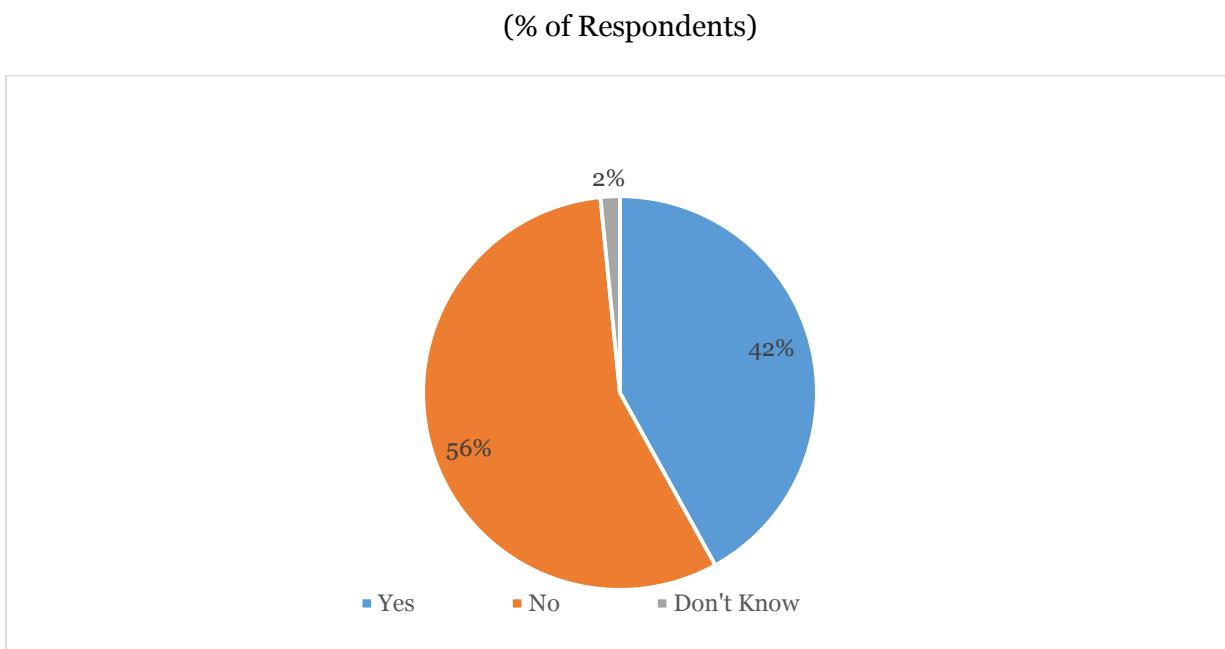
Again, it must be noted that this statistic is not representative of all individuals across the project areas, moreover among those knowledgeable about the household's overall economic situation. Nevertheless, this figure is telling: a decent proportion of those knowledgeable about the household's overall economic situation were also aware of the initiative to support the establishment of agricultural cooperatives across the country.

Awareness of the cooperative initiative varied across districts, as illustrated in Figure 3.12.2. In Lanchkhuti, 57% of respondents had heard about the initiative, while in Chockhatauri only 25% had. Interestingly, this high degree of awareness seems to correspond to the current levels of cooperative registration across these districts.

Figure 3.12.2: Respondents (by District) Who Have Heard about the Recent Initiative by the Ministry of Agriculture to Support the Establishment of Agricultural Cooperatives across the Country

(% of Respondents)
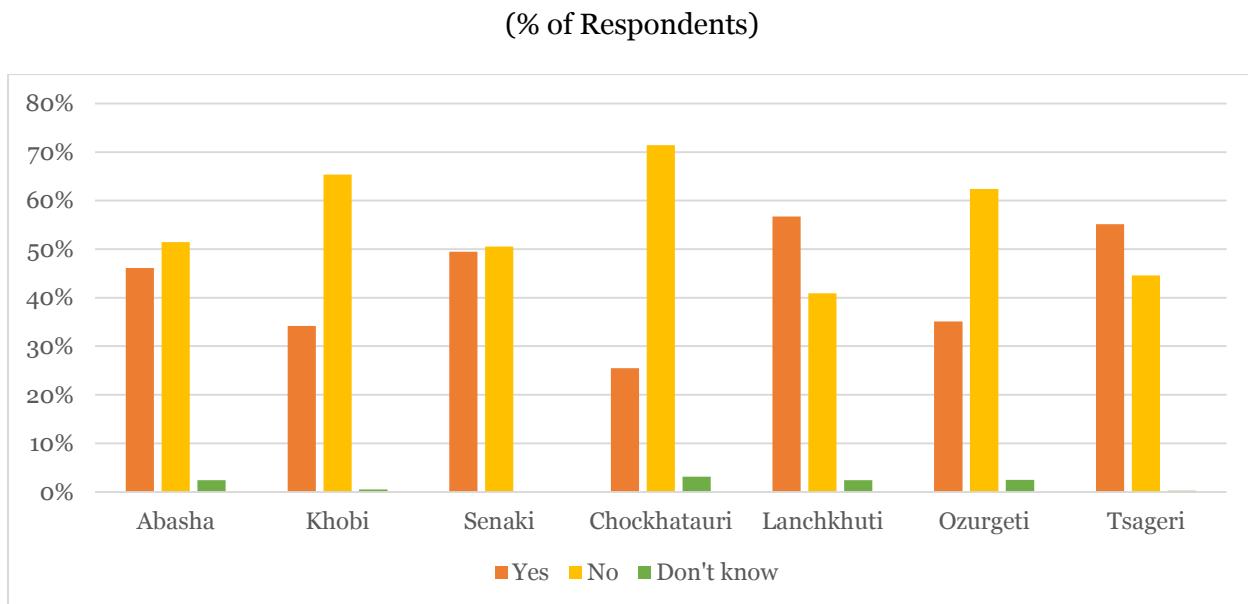
Among those who *had* heard about the initiative, the majority said their primary source of information about the initiative was television (89%). This was the similar response across all districts. Others indicated that their primary source of information about the initiative was friends, neighbors, or family members (3%), local government officials (3%), or a brochure (2%).

Among those who had heard about the initiative, only 10% stated that they were aware of the Law of Georgia on Agricultural Cooperatives.[23]

It is currently extremely rare that a household has a member who is a member of a formally-registered agricultural cooperative. As illustrated by Figure 3.12.3, only 1% of respondents indicated that the household had at least one member who was involved with a cooperative.

However, as shown in Figure 3.12.4, 31% of respondents indicated that someone within the household *was interested* in being in any type of formally-registered agricultural cooperative, which is quite remarkable considering that the Law of Georgia on Agricultural Cooperatives and the ENPARD program have just come into effect.

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[23] We also asked follow-up questions about awareness of the tax rules for agricultural cooperatives, the process for registering a cooperative, and government support for promoting cooperative development, though these questions were asked to key respondents only if they were aware of the Law of Georgia on Agricultural Cooperatives. Technically, it would have been more effective to ask these questions separately from awareness about the law, as respondents might have been aware of the tax benefits, registration process, or other support for cooperatives independent of their awareness of the law itself.

Figure 3.12.3: Membership in a Formally-Registered Agricultural Cooperative

(% of Respondents Indicating That a Household Member is Currently a Cooperative Member)
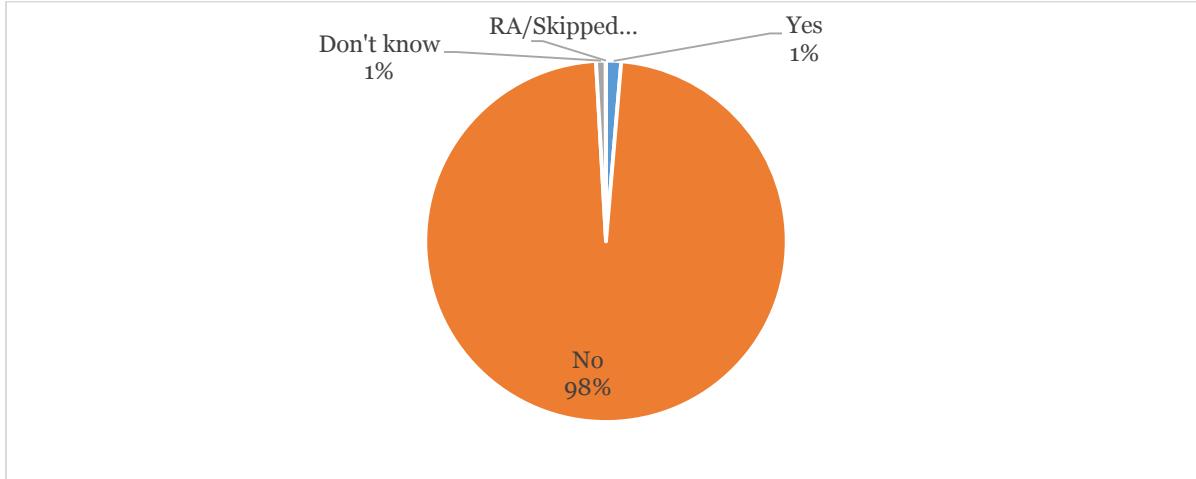
Figure 3.12.4 Interest in Being a Member of a Formally-Registered Agricultural Cooperative

(% of Respondents Indicating That a Household Member is Interested in Being a Cooperative Member)
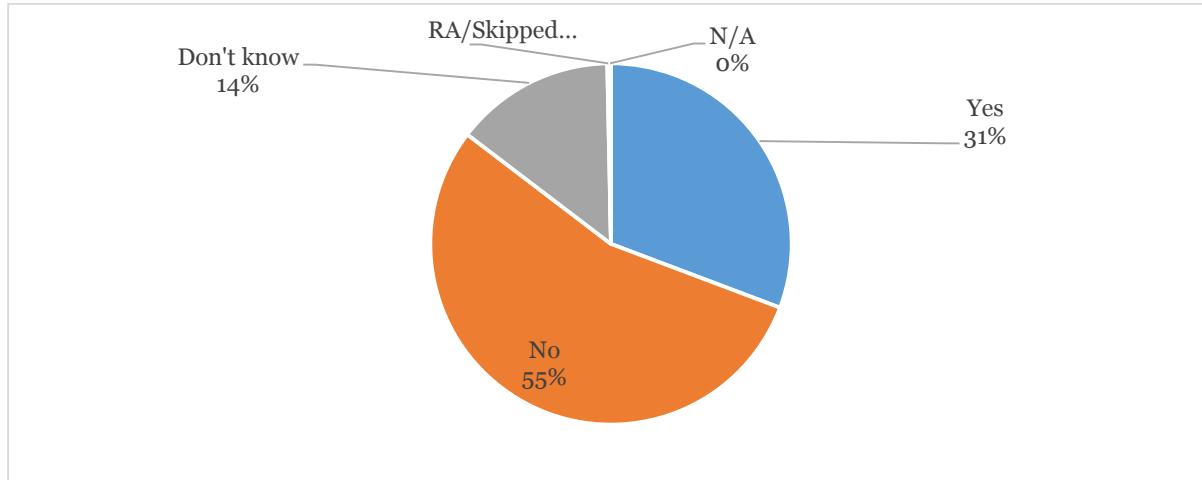
This figure was somewhat higher (41%) when we consider only those respondents who had heard about the initiative to support the development of agricultural cooperatives (see Figure 3.12.5).

Figure 3.12.5: Interest in Being a Member of a Formally-Registered Agricultural Cooperative

(% of Respondents Indicating That a Household Member is Interested in Being a Cooperative Member | Awareness of the Initiative to Support the Development of Cooperatives in Georgia)
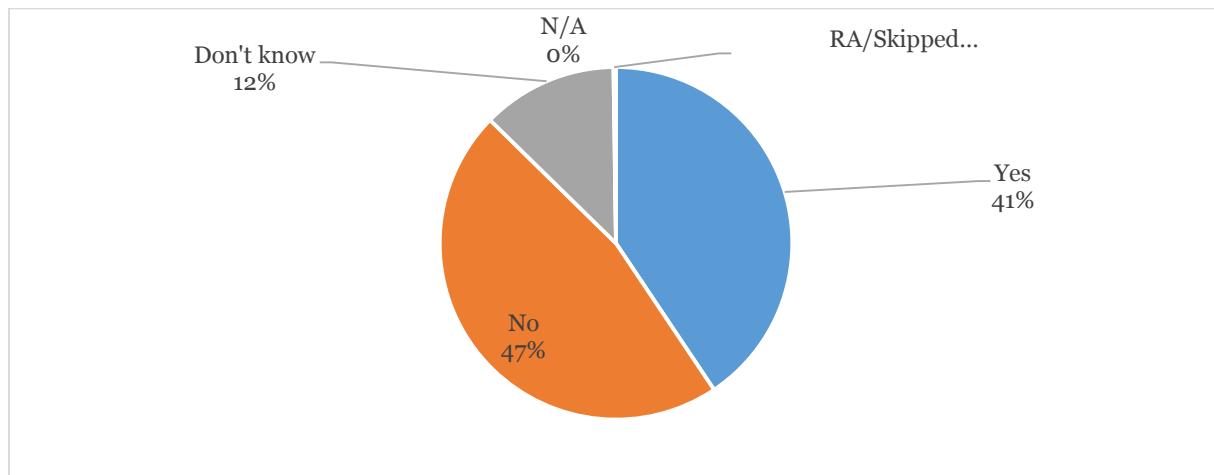

Interestingly enough, among those respondents who were not aware of the initiative to support the development of agricultural cooperatives across the country, 24% indicated that they or someone in their household were interested in being in any type of formally-registered cooperative. While this statistic may be rather puzzling, this may be the case because the question is capturing positive sentiment toward Soviet-era state and collective farms which had previously operated in the region. This is also interesting considering that although many households are engaged in agricultural pursuits, others are not.

We then asked respondents why they or someone within the household were (or weren't) interested in being a member of any type of formally-registered agricultural cooperative. We allowed respondents to select up to three reasons for their or a household member's interest (or lack thereof). We then created new variables for each specific category, in order to assess the degree to which each unique factor plays a role in their preferences. It should be noted that some households selected only one or two reasons for joining a cooperative, so these figures should be viewed as suggestive and qualitative rather than conclusive measures of the factors influencing interest or lack thereof.

Among those respondents indicating that they or someone within the household was interested in being a member of a cooperative, we found that the following reasons were mentioned by respondents (Figure 3.12.6):

Figure 3.12.6 Reasons for Interest in Being in Any Type of Formally-Registered Agricultural Cooperative

(% of Respondents | Interest in Being a Cooperative Member)
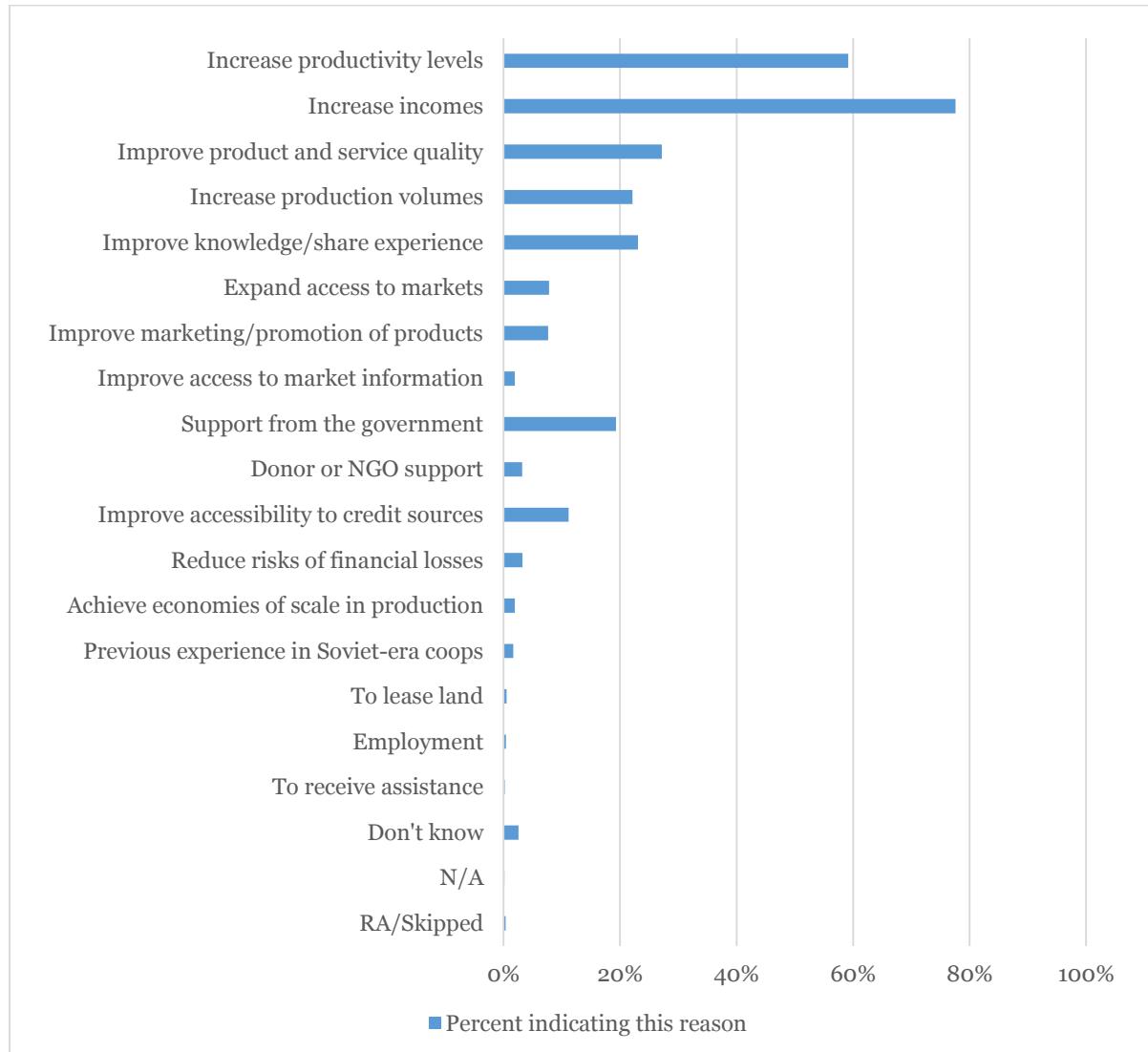
Respondents were allowed to choose from a list of possible responses presented via show card, though in some cases respondents opted to provide a response which was not provided via the show card.

Figure 3.12.7: Reasons for No Interest in Being in Any Type of Formally Registered Agricultural Cooperative

(% of Key Respondents | No Interest in Being a Cooperative Member)
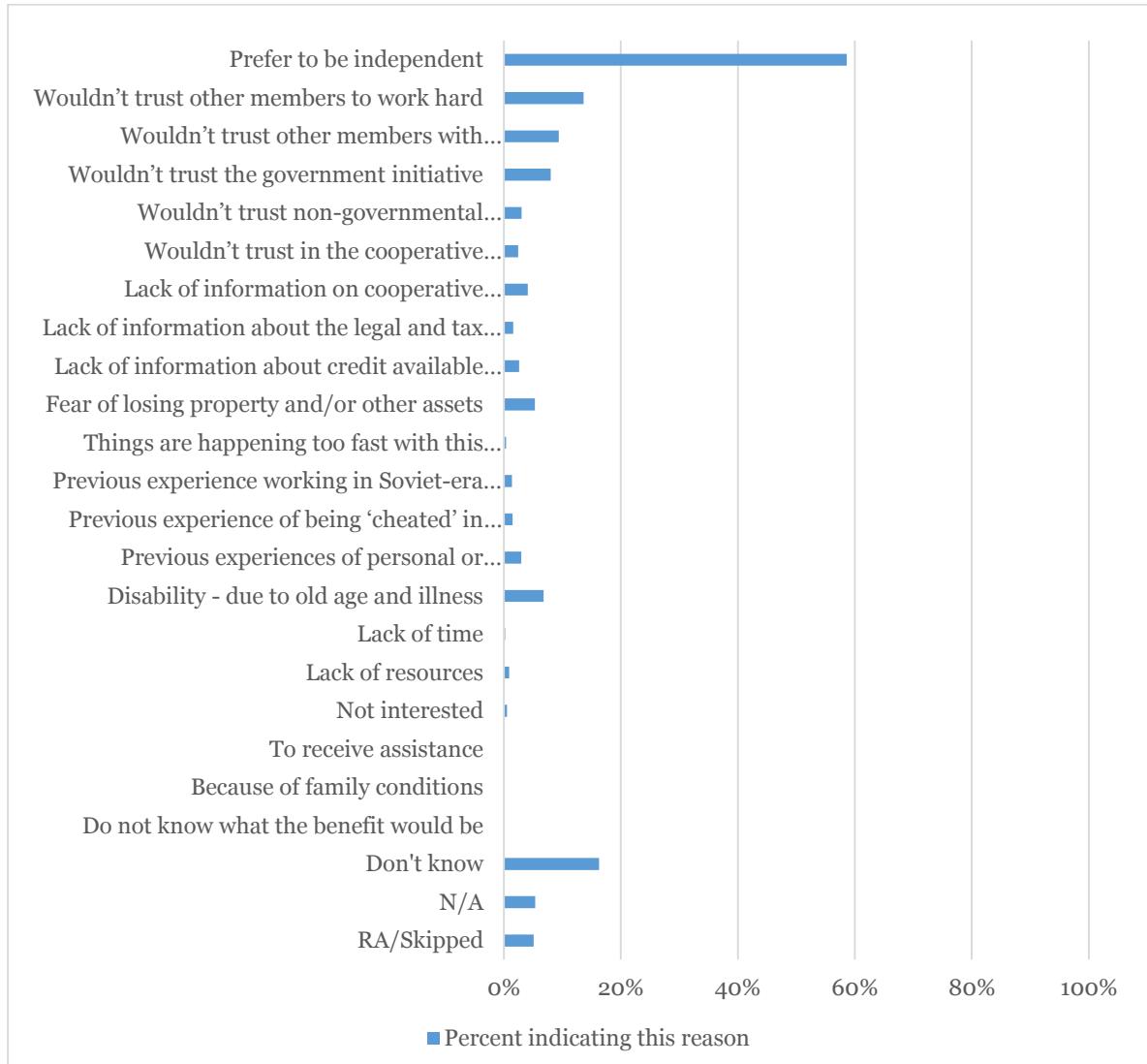
When we asked those respondents why they or someone in their household were *not* interested in being in any form of formally-registered agricultural cooperative, most simply stated that they preferred to be independent or that they didn't know. Previous experience working in Soviet-era state and collective farms did not seem to play a role, or did trust of other potential cooperative members to work hard to manage cooperative funds properly.

We also assessed the degree to which household members are currently cooperating informally. We considered whether the respondent or another household member had been involved in any of the following informal agricultural activities during 2013:

- Joint production of agricultural products
- Joint storage and marketing of agricultural products and/or inputs
- Sharing credit with other farmers
- Joint provision of trainings, information, or product origin branding
- Moving livestock to pasture jointly
- Other agricultural labor sharing

The results are presented in Figure 3.12.8. Across all districts, about 22% of households had a member who engaged in at least one of the above forms of informal cooperation in agricultural activities. Agricultural labor sharing was the most common form of informal cooperation.

Figure 3.12.8: Informal Cooperation in the Agricultural Sector

(% of Respondents)
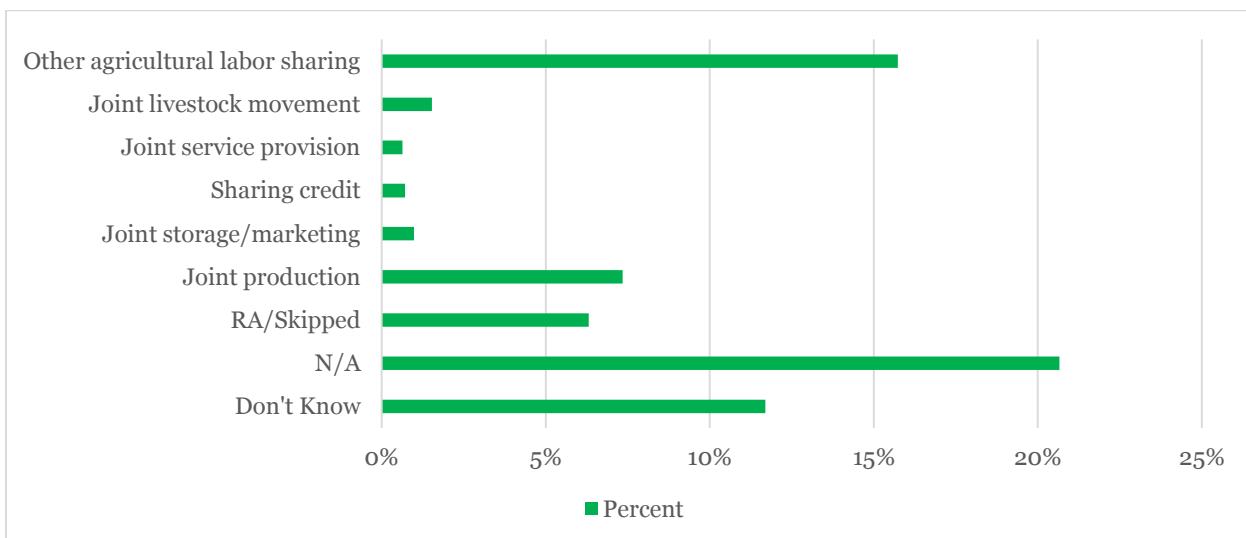
We also conducted a baseline measurement of awareness of and membership in the Georgian Farmers Association (GFA) across the project districts. At the time of survey administration, 33% of respondents had heard of GFA, which is quite high.

Figure 3.12.9 Have You Heard of the Georgian Farmers Association?

(% of Respondents)
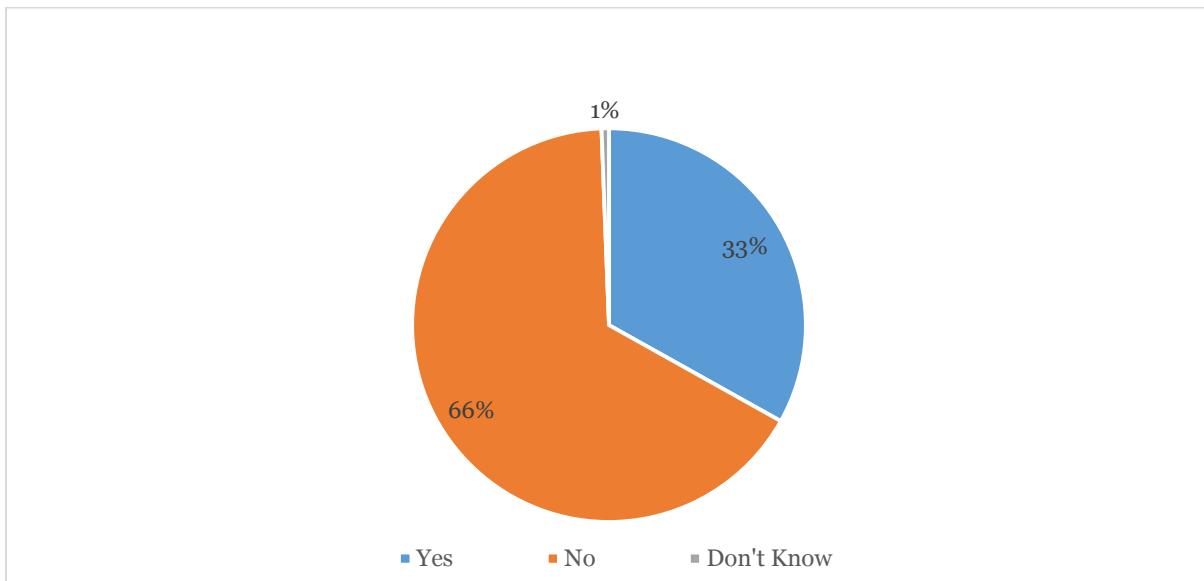
We followed up with those respondents who had heard of GFA, asking them whether they or anyone in their household was a currently a member of GFA. Currently, among those households surveyed across the project areas, only 2% of those respondents indicating they had heard of GFA are currently members as well.

3.13 Trust

In this section of the survey, we briefly assess some aspects of informal institutions in the rural economy. Generally, informal institutions are those "…socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels" (Helmke and Levitsky, 2004).

While we only briefly touch upon elements of these informal institutions by focusing primarily on the degree to which respondents trust institutions and other individuals, we hope that this illustrate some of the challenges that may arise with cooperation and further division of labor in the agricultural sector and rural economy.

### 3.13.1 Measures of Trust

It's been argued that there is a relatively low level of 'bridging' social capital in Georgia (Mushkelishvili, Mezvrishvili, Natsvlishvili, and Elizbarashvili, 2012), which may be one factor inhibiting cooperation in the rural economy. While we do not examine the role played by various forms of social capital in this study, we do look at a few baseline measures of trust.

To examine the level of trust across the project districts, we asked respondents the standard World Values Survey question, "generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" Respondents were offered a choice of either (1) "most people can be trusted" or (2) "you need to be very careful."

Figure 3.13.1: Trust

(% of Respondents)
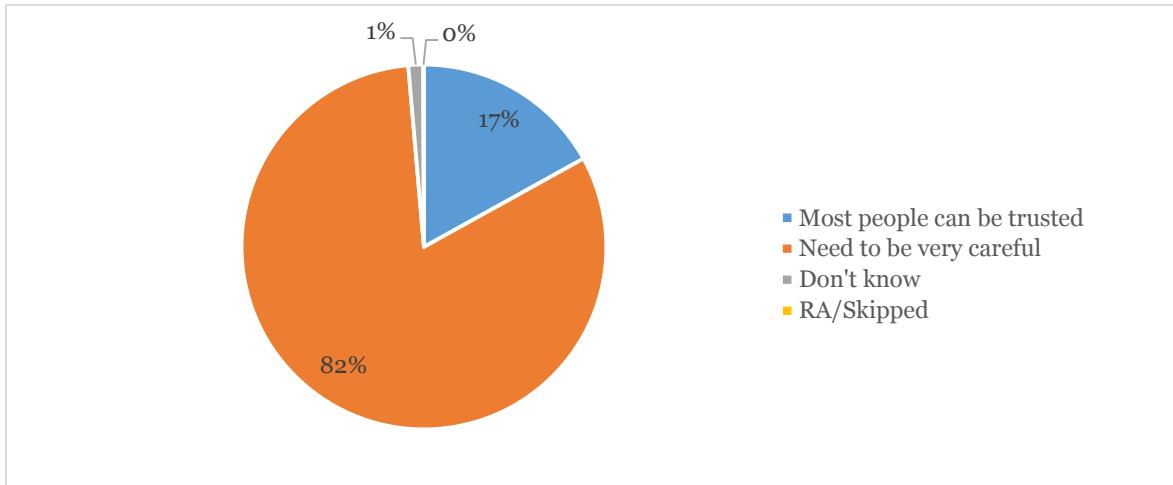
Overall, the vast majority of respondents indicated that one "needs to be very careful" in dealing with people (82%). To consider this statistic in a regional context, consider that according to the World Values Survey Wave 6 (2010-2014) results, this statistic is similar to that in neighboring Armenia (87.9% in 2011) and Azerbaijan (82% in 2011-2012).

As shown in Figure 3.13.2, there was only limited variation in responses across the seven districts. Again, it must be noted that these responses are representative of survey respondents and not individuals across the project districts. Nevertheless, the differences in responses across districts are revealing.

Figure 3.13.2 Trust across Districts
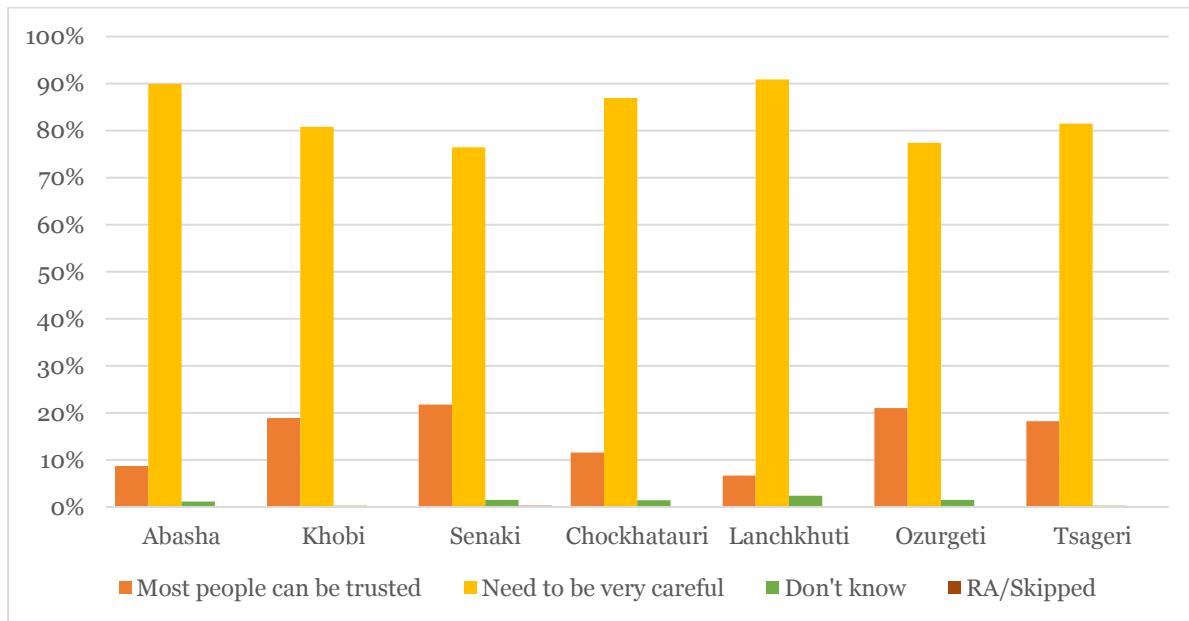
(% of Respondents)

We found fairly similar results when we asked another standard World Values Survey question to respondents: "Do you think most people would try to take advantage of you if they got a chance?" The respondents were asked to respond along a continuum of "People would try to be fair" (10) to "People would try to take advantage of you" (1).

We found that the average response to this question was 4.7, which is fairly low. Across the seven districts considered here, the district with the lowest average response was Lanchkhuti (3.7) while the district with the highest average response was Senaki (5.2).[24]

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[24] Not including responses of "don't know" and "refused to answer/question skipped."

Figure 3.13.3: Perceptions of Opportunism

(% of Key Respondents)
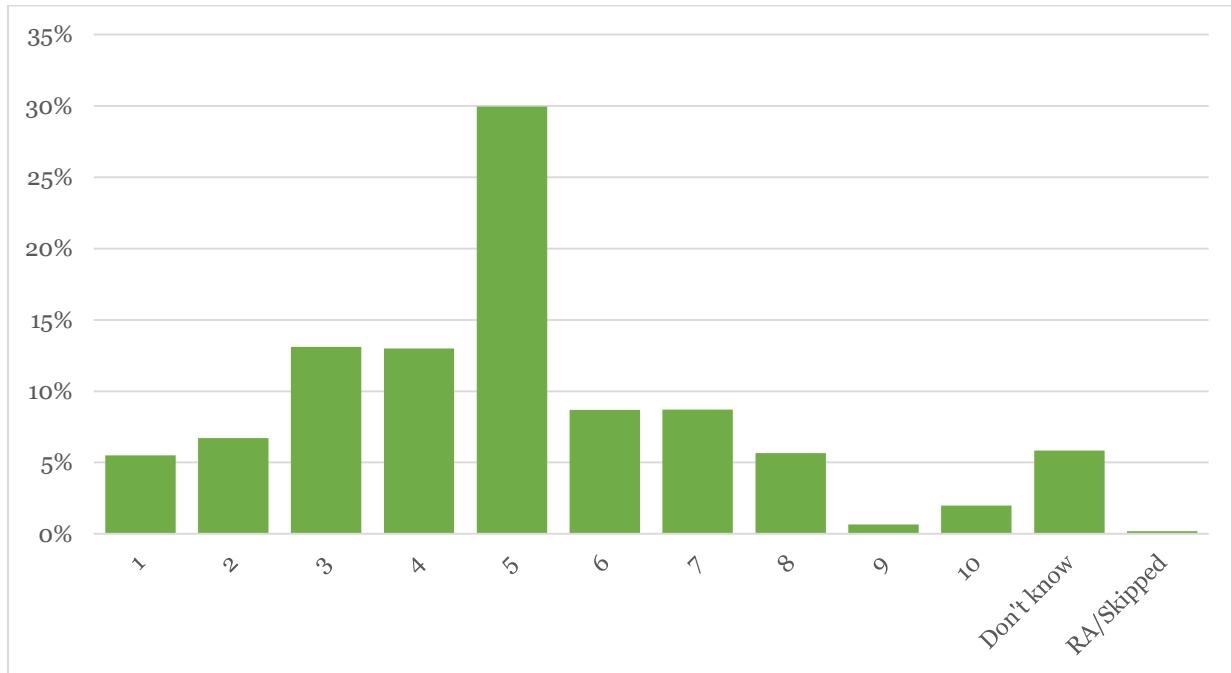
Interestingly, when we asked respondents about the degree to which they trust other farmers in their community, the results were somewhat different. Most respondents indicated that they *did* either somewhat trust (53%) or fully trust (28%) other farmers in their communities. This suggests that generalized trust, measured by the traditional World Values Survey questionnaire, might be lower than community-level trust, which is measured by our question here.

Figure 3.13.4: Trust of Farmers in the Community

(% of Key Respondents)
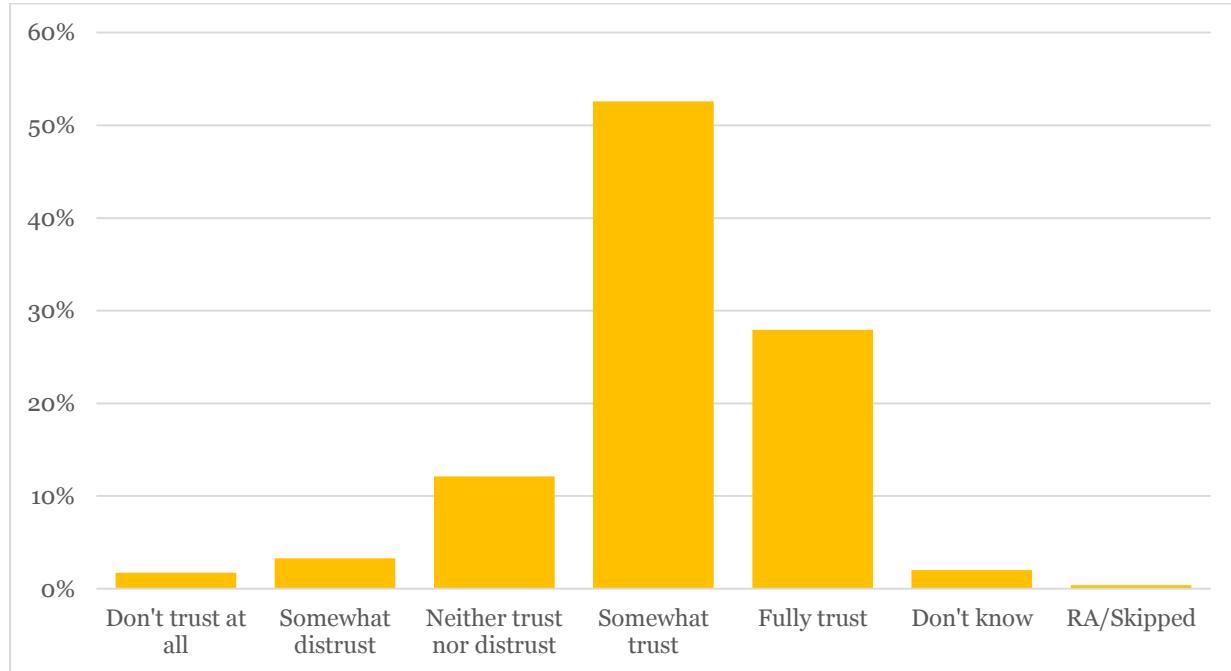
Again, Senaki seemed to be the district with the highest level of trust, with 44% of respondents in Senaki indicating that they fully trust other farmers in their community and 35% indicating that they somewhat trust other farmers in their community.

We also asked respondents about the degree to which they trust other farmers in their community to stick to contracts/agreements, providing them with an example of trusting other farmers to pay back credit on time. The results (presented in Figure 3.13.5) were fairly similar to the above question, though respondents were perhaps less likely to trust other farmers for more specific contractual arrangements than the general trust question employed above.

Figure 3.13.5: Trust in Other Farmers in Your Community to Stick to Contracts/Agreements

(% of Key Respondents)
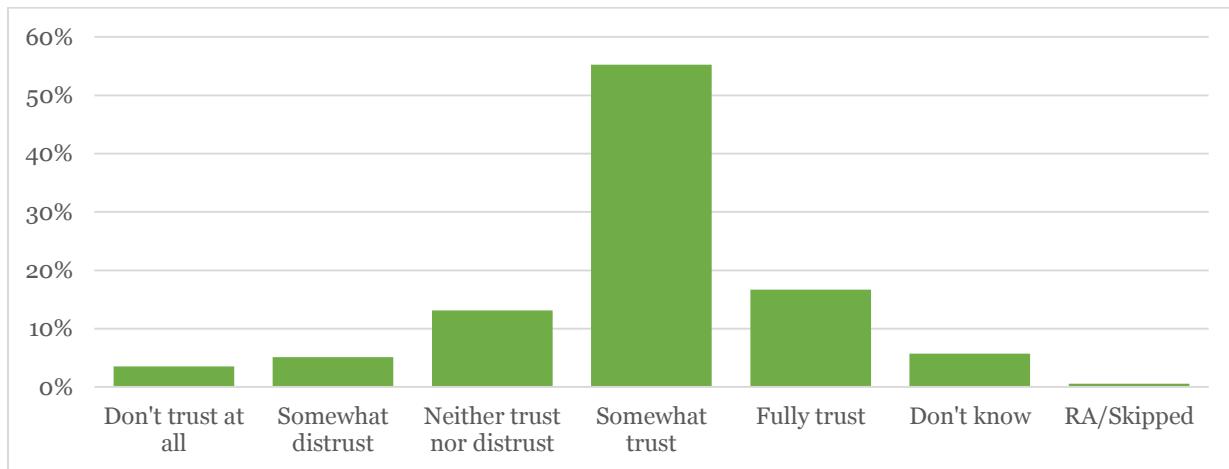
3.14 Property Rights

As defined by Besley and Ghatak (2010: 4526), a *property right*…

> … refers to an owner's right to use a good or asset for consumption and/or income generation (referred to as "use rights"). It can also include the right to transfer it to another party, in the form of a sale, gift, or bequest (referred to as "transfer rights"). A property right also typically conveys the right to contract with other parties by renting, pledging, or mortgaging a good or asset, or by allowing other parties to use it, for example, in an employment relationship.

The authors further argue that "…a study of property rights also requires considerations of the arrangements, both formal and informal, that ensure that property rights are well defined and enforced."

This is especially relevant for the case of Georgia considering that at least anecdotally there have been many disputes over property ownership and land use rights.

We therefore wanted to ask respondents about their views about the status of property rights in Georgia in general. While there was not a comprehensive framing of the question due to time limitations for survey administration, the results (presented in Figure 3.14.1) suggest that there is some cautious optimism among the population about the security of individual's property rights in Georgia, both for how property rights somewhat improved in 2013, as well as for what their views are on how property rights protection will evolve in 2014 (Figure 59). Most respondents indicated that the situation regarding the security of individual's property rights either remained the same or improved somewhat, and this matches expectations about what will happen with regard to property rights protection over the upcoming year.

Figure 3.14.1: Perceptions of Changes in the Security of Individuals' Property Rights in Georgia in 2013

(% of Respondents)
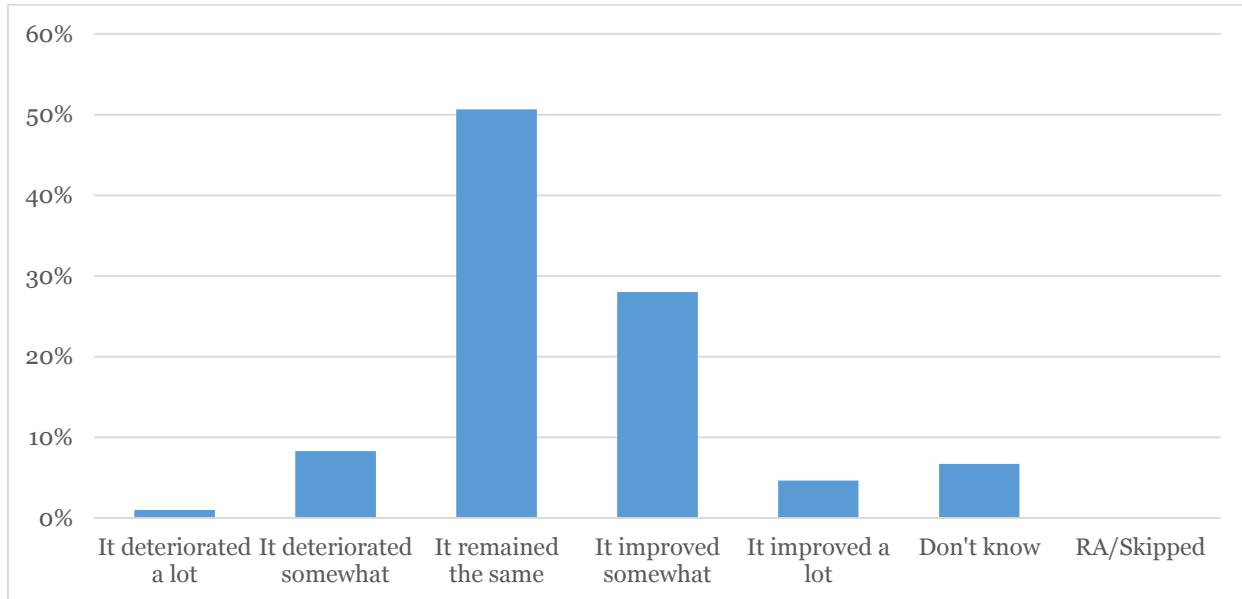
Figure 3.14.2: Views on What Will Happen to the Security of Individuals' Property Rights in Georgia in the Next 12 Months

(% of Respondents)
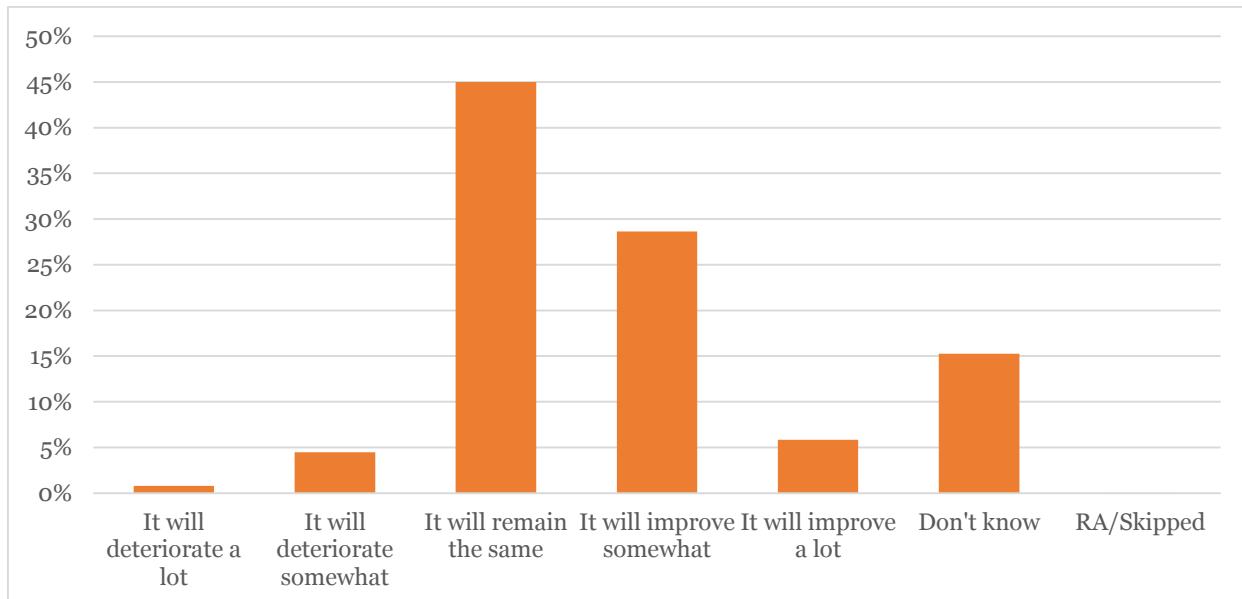
There was some variation across districts in responses, as shown in Figure 3.14.3.

Figure 3.14.3: Perceptions of Changes in the Security of Individuals' Property Rights in Georgia in 2013 across Districts
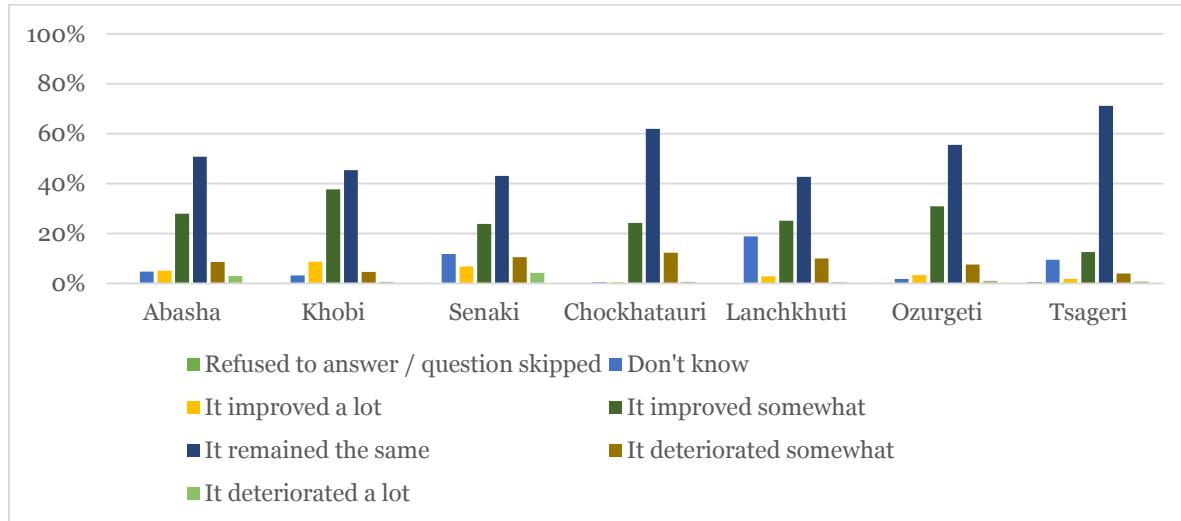
(% of Respondents)

**Figure 3.14.4: Views on What Will Happen to the Security of Individuals' Property Rights in Georgia in the Next 12 Months across Districts**
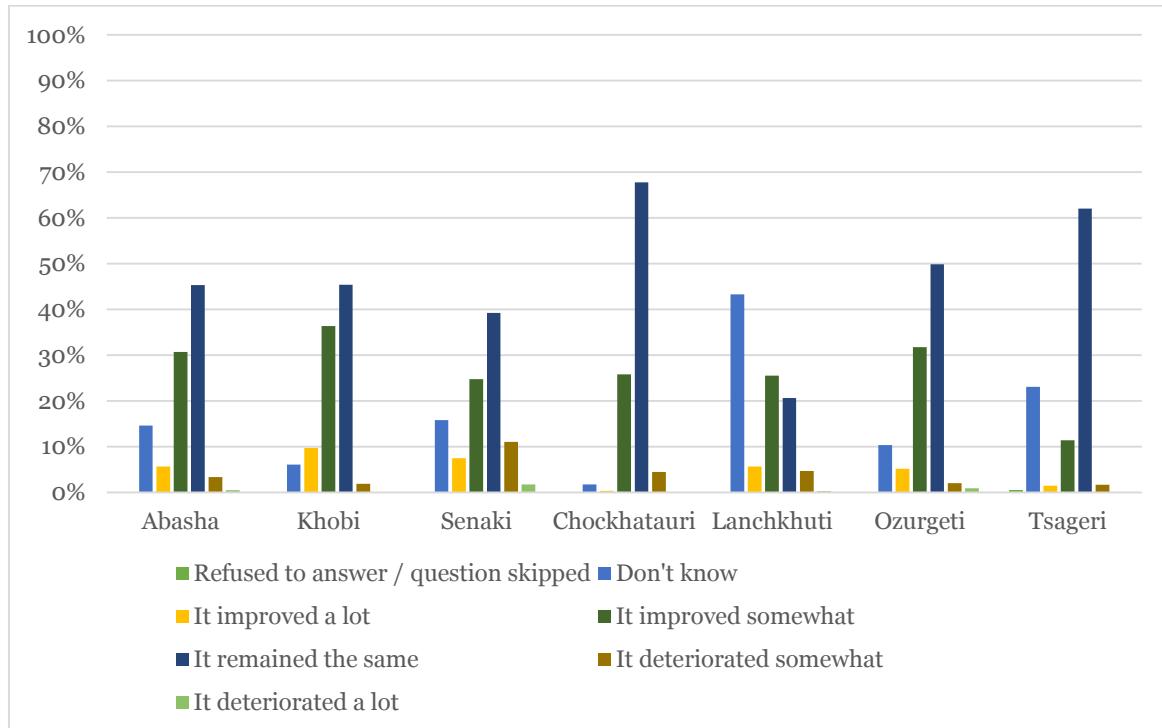
(% of Respondents)

We also assessed whether, during 2013, the respondent or a household member experienced a situation where someone pressured them to 'gift' any sort of private property or land to the state, an individual, or a private company.

Figure 3.14.5 Cases of Household Property Violation in 2013

(% of Respondents)

0.15%   0.22%

99.63%

■ Yes   ■ No   ■ Don't Know
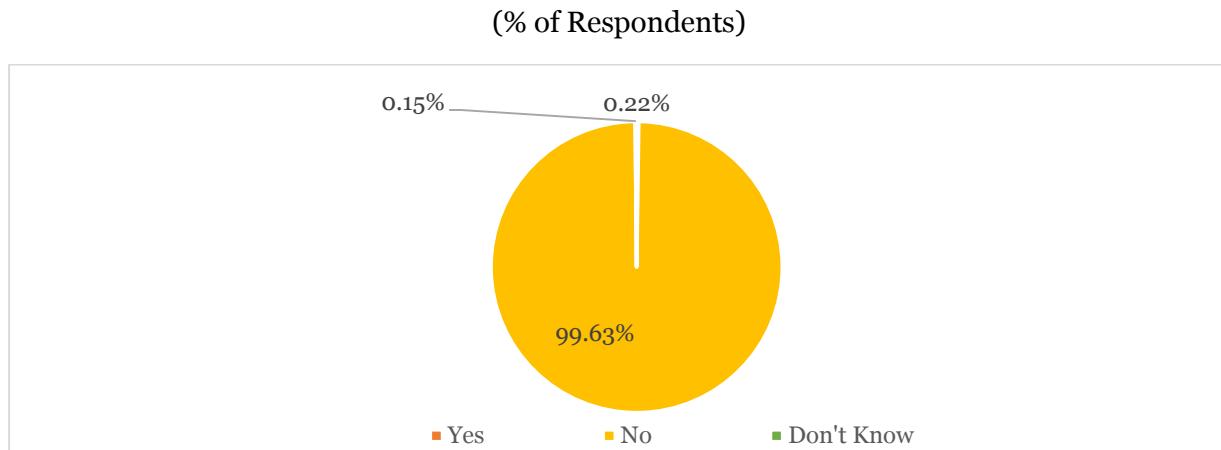
Figure 3.14.6 Cases of Household Property Violation in the Last 10 Years

(% of Respondents)

0.22%   0.93%

98.85%

■ Yes   ■ No   ■ Don't Know
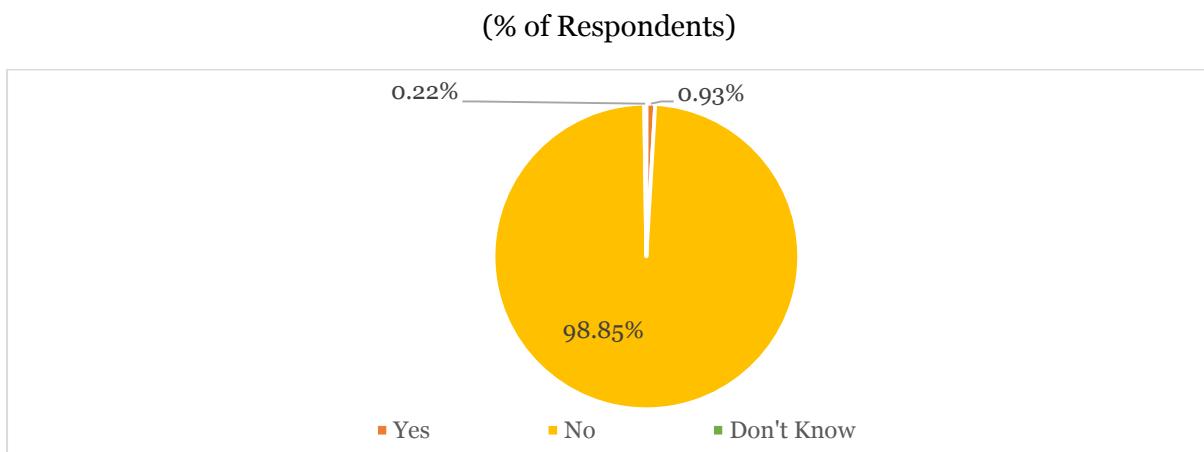
As shown in Figure 3.14.5, in 2013, only 0.2% of respondents indicated that this was the case. Considering a time span of the previous 10 years, this was the case for 0.9% of households (see Figure 3.14.6). While more research is needed into the degree to which individual's land rights are defined and enforced, it appears that smallholders' property rights across the region are relatively secure. It should be noted that other investors or individuals not captured in this research design might have experienced difficulties with property rights, however.

4   Indices of Household Living Conditions, Durable Goods Ownership, and Agricultural Asset Ownership

In this section, we construct three simple indices of household living conditions, durable goods ownership, and agricultural asset ownership based on the indicators listed in Section G of the baseline survey questionnaire.

4.1.   Index Construction

In order to assess whether there are significant differences in the overall socio-economic status of households across districts, we constructed three simple indices.

The first index is of household living conditions. This index was constructed by taking an average of the indicators put forth in Table 4.1.1. Each indicator listed in this table takes on a value of either 0 (not applicable) or 1 (applicable). The index value therefore takes on a value between 0 (none of the indicators apply for the household) and 1 (all of the indicators apply for the household). The second and third indices are of household ownership of durable goods and agricultural assets, respectively, and are calculated in the same way.

Table 4.1.1: Indicators Used for Constructing Each Index	
Index	**Indicators**
Household living conditions	Amenities: Kitchen, wine cellar, bathroom, garage, hot water, central gas supply, internet access Form of ownership/use: apartment/house owned by the household
Ownership of durable goods	Durable goods: Refrigerator, washing machine, sewing machine, computer, car
Ownership of agricultural assets	Assets: Artificial ponds for fish, wells, stables, barns, cold storage units (or basement), hand cart

4.2.   Results

Based on the index of household living conditions, we see that the average households in Senaki and Ozurgeti are relatively better off than those in other districts across the project area (see Figure 4.2.1).

Figure 4.2.1: Index of Household Living Conditions

(District Level Average)
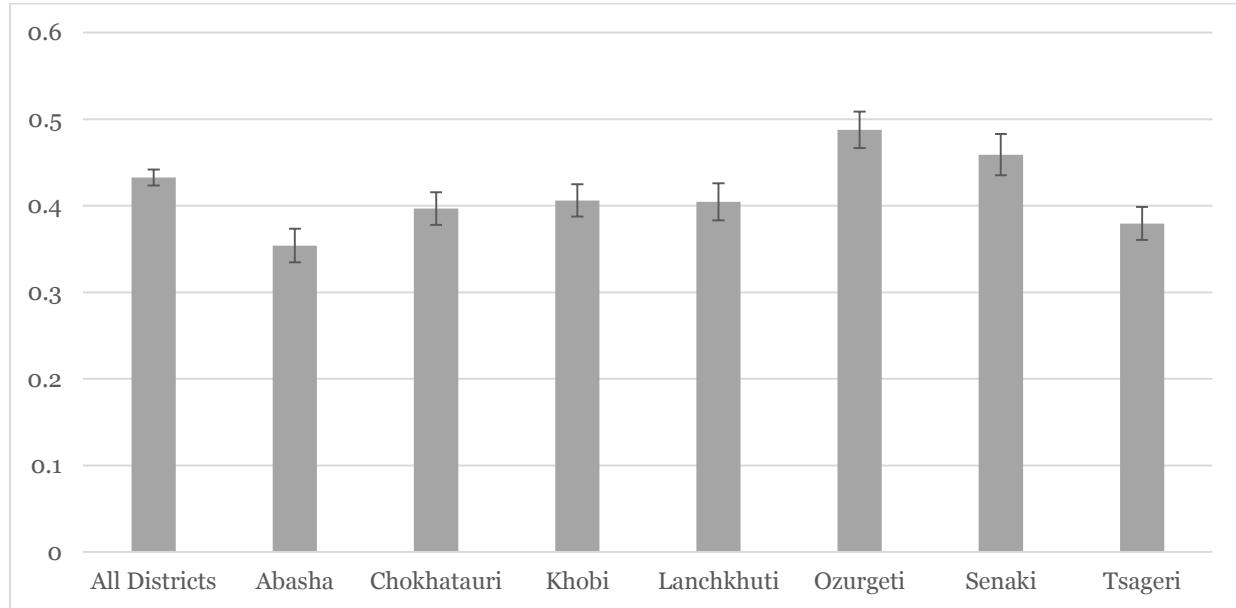
Based on the index of household durable good ownership, we see that households in Ozurgeti are again somewhat better off than other households across the project areas (see Figure 4.2.2).

Figure 4.2.2: Index of Ownership of Durable Goods

(District Level Average)
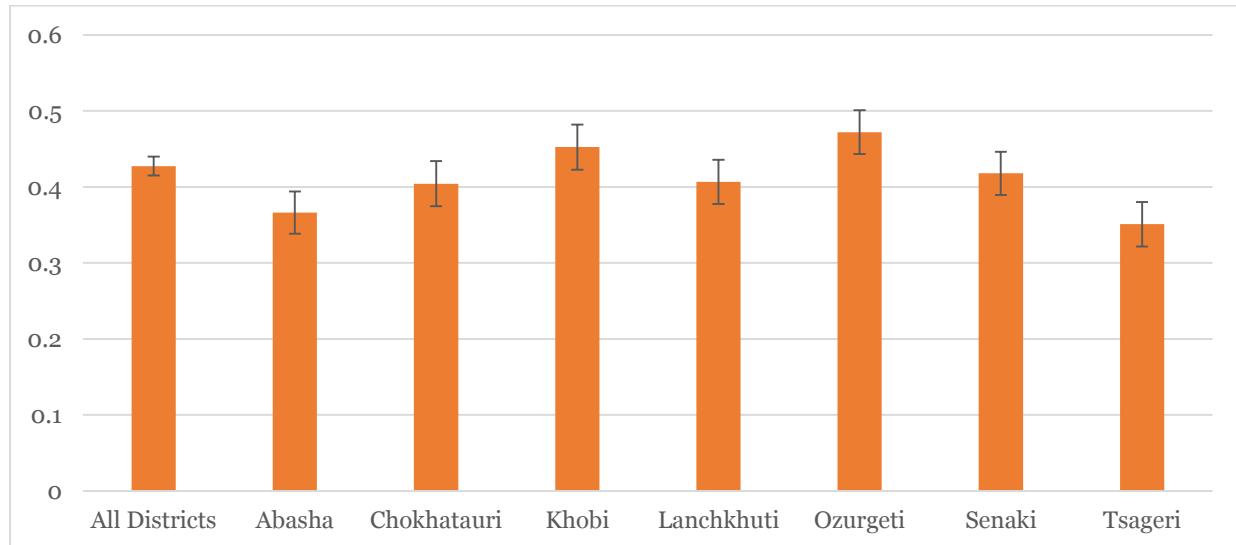
For our last index, that of agricultural asset ownership, we see that the results are quite different than in the above two indices (see Figure 4.2.3). Households in Khobi appear to have more agricultural assets on average than households across the project areas.

Figure 4.2.3: Index of Agricultural Asset Ownership

(District Level Average)

While these indices are rather simple, they nevertheless provide a snapshot of differences in household living conditions, durable good ownership, and agricultural asset ownership across the seven districts. We confirm that the results from indices constructed using principal component analysis (PCA) for the unweighted survey data are comparable to those presented above. These results are available from the authors upon request.

5   Discussion

In this section, we review the limitations of this baseline assessment and lessons learned from designing and pilot testing the survey questionnaire and collecting the survey data. We also highlight areas for future research based on the baseline survey dataset and further qualitative field research.

5.1   Limitations and Lessons Learned

During the course of survey design, pilot testing, survey restructuring, data collection, processing, and analysis, we learned quite a number of lessons which may be useful for both students and practitioners in Georgia.

The pilot testing of the first version of the questionnaire led to much survey restructuring, with the goal of reducing survey administration time in order to reduce respondent and enumerator fatigue. With regard to survey design, it's best to keep the questionnaire as simple as possible. The temptation is to write a comprehensive survey questionnaire, but (1) respondent and enumerator fatigue stemming from lengthy survey administration, (2) limited capacity for respondent recall, and (3) the cost of a full survey suggest that simple indicators and questions about attitudes would lead to the most accurate collection of data. Many respondents were simply tired of being asked questions, and may have just quickly given responses to end the survey as soon as possible.

It must be recognized that many households in western Georgia are engaged in agricultural pursuits, some of which may be seasonal in nature. It is likely that most households *do not* keep accounting records of their agricultural activities (and, especially, their costs of production), which implies that most statistical information regarding *agricultural productivity* is simply guesswork.

Most of the statistics produced in this report should be viewed as suggestive rather than conclusive, and much more research must be conducted on these issues. Many indicators may be measured with no small amount of error (especially for self-reported accounting records, like expenditures on inputs or the level of production for each commodity on each land plot). Effective survey design in the Georgian context requires much creativity, time, and many iterations of questionnaire design/restructuring and pilot testing.

It would also be beneficial to construct and implement two (or more) different surveys aimed at capturing household-level, individual-level, and perhaps even plot-level heterogeneity when it comes to agriculture and rural development. This would ensure that the survey results are more representative. The downside, of course, is the cost of such an initiative.

5.2   Areas for Future Research

There are many areas for future research based on this baseline survey dataset alone. For example, each of the sampling points has latitude and longitude coordinates assigned to it, which would enable an exploration of the role of geographic factors (e.g., distances to wholesale markets or major points of commodity export like Poti or Batumi, the role of weather conditions on agricultural production levels, the impact of dispersion on market orientation of agricultural producers, etc.).

Beyond this baseline assessment dataset, there remain many important areas for research, especially as they relate to promoting agricultural cooperative development. Chief among these areas is conducting applied value chain analysis for commodities produced by cooperatives in major areas (which would also be generally useful for other producers in the project areas) as well as developing brief case studies about each of the cooperatives. Such case studies would be highly useful for understanding when and why cooperatives succeed or which challenges may serve as binding constraints on agricultural cooperative development and performance.

6 Recommendations for Monitoring and Evaluation (M&E) System Development for ENPARD Consortia

In this section, we put forth our recommendations for specific indicators to be employed in the monitoring and evaluation (M&E) systems used by our consortium and that of other ENPARD consortia. These indicators are suggested in Table 6.1.

Table 6.1: Indicators for Monitoring and Evaluation Systems	
Baseline and endline comparisons across the project target areas and among cooperative members	
Incomes	Income from the cooperatives Revenues from selling agricultural products (not including that from the cooperative) and a full accounting of the costs of production over time Full accounting of household income sources
Cooperatives	Attitudes toward cooperatives Reasons for or against being a member of a cooperative Awareness of the specifics of the Law of Georgia on Agricultural Cooperatives Awareness of the Georgian Farmers Association Membership in the Georgian Farmers Association
Marketing	Percent of agricultural products being sold to the market Primary marketing channels Marketing through cooperatives
Land	Contribution of land plots owned by the household to a cooperatives Total land under a greenhouse Joint use of land
Knowledge and attitudes	Knowledge of business practices (balance sheet accounting, profit and loss calculations, etc.) Awareness of new business opportunities Understanding of how to identify and diversify against risks Sources of information about new business opportunities or business ideas

7   Conclusion

There are many opportunities for agrarian households across Georgia to improve their levels of agricultural productivity and to achieve higher incomes. The development of business-oriented, commercially-viable agricultural cooperatives will enable family farms to find new market opportunities.

At the same time, there will be many challenges with cooperative development, especially when it comes to achieving a competitive position within a particular value chain. Much more research is needed on which cooperative business models work in the Georgian context and for particular agricultural commodities (and even in particular districts).

Our hope is that this baseline assessment will serve as a basis for dialogue about agriculture and rural development in Georgia, as well as for understanding how agricultural cooperatives can play a role in improving agricultural productivity and incomes from agriculture in Georgia.

8   Online Appendix

The household survey questionnaire and show cards used for this baseline assessment are available (in English and in Georgian) on the following site: http://www.iset-pi.ge. The lines of Stata code used to conduct the analysis are also available from the authors upon request.

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