# Study of SDC Direct/Indirect Beneficiaries in Rural Georgia and Armenia

Final Report
Version: 1.1.

Prepared by ACT
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# Content

## Abbreviations & Acronyms

| | |
|---|---|
| **ACT** | Analysis and Consulting Team |
| **ALCP** | Alliances Caucasus Programme |
| **BS** | Beneficiary Study |
| **DEFF** | Design Effect |
| **DK** | Do not Know |
| **FGD** | Focus Group Discussion |
| **FI** | Field Interviewers |
| **FSU** | Final Sampling Unit |
| **FTF** | Face to Face |
| **HH** | Household |
| **IDI** | In-depth Interview |
| **IDS** | Institute of Development Studies |
| **M4M** | Markets for Meghri |
| **MOE** | Margin of Error |
| **MOLI** | Market Opportunities for Livelihood Improvement |
| **PSU** | Primary Sampling Unit |
| **RA** | Refused to Answer |
| **RED** | Rural Economic Development Program |
| **SCO** | Swiss Cooperation Office |
| **SDA** | Strategic Development Agency |
| **SDC** | Swiss Agency for Development and Cooperation |

| | |
|---|---|
| **SSF** | Small-Scale Farmer |
| **SSU** | Secondary Sampling Unit |
| **TOR** | Terms of Reference |
| **VCD** | Value-Chain Driver |

# Executive Summary

**The Study of SDC Direct/Indirect Beneficiaries in Rural Georgia and Armenia** was conducted by the Analysis and Consulting Team (ACT) with the technical and financial support of the Swiss Cooperation Office (SCO) for the South Caucasus. This study explores the views and perspectives of direct and indirect beneficiaries of SDC funded projects in Georgia and Armenia, with particular focus on the development perspectives of the agricultural sector and intentions in terms of pursuing current agricultural activities in the future.

**The study used the triangulated approach by applying a mix of qualitative and quantitative methods** including large scale surveys in specific target regions (150 direct beneficiaries & 1800 indirect and non-beneficiaries), focus group discussions (18 FGDs), in-depth interviews (18 IDIs), as well as case studies (two case studies). The study covered four regions in Georgia (Kakheti, Kvemo Kartli, Samtskhe-Javakheti, Adjara) and two regions in Armenia (Vayots Dzor, Syunik).

Key findings are presented below, concerning both indirect and direct beneficiaries, such as farmers and Value Chain Drivers (VCDs) involved in meat, dairy, potato and honey value chains (VCs) in Georgia, as well as meat, dairy and horticulture value chains in Armenia.

FARMERS AND VCDs IN GEORGIA:

**A large share of farmers currently engaged in agriculture in target regions of Georgia intend to continue their agricultural activities (64%).** The study revealed that there is not a single reason behind the intention of farmers to stay in agriculture, but rather a complex mix of factors play a role. On one hand, the current **labour market situation** offers little variety in employment opportunities, which limits the choices of farmers. On the other hand, rural residents express more confidence about their **knowledge and skills** in agriculture, since they have **extensive experience** in this field. For rural farmers, agriculture represents a "natural habitat", since this is a **traditional** activity that has been part of their life for a long time. Considering these two factors together with the fact that there are **positive examples of income generation and in some cases substantial profits** though agriculture, involvement in agriculture remains a best coping strategy for rural farmers. Moreover, farming brings income and supports the rural household in terms of **healthier and cheaper** food supplies at a subsistence level**.** The combination of these advantages makes agriculture a desirable field to work in, despite the many challenges that farmers face in the process.

**Farmers with specific characteristics are more inclined to stay in agriculture.** This study found that certain characteristics are associated with the farmers' intentions to stay in agriculture. Among Georgian farmers, involvement in the **dairy VC** is positively associated with the likelihood of staying in agriculture, (i.e. farmers in the dairy VC are more likely to continue their activities). Other characteristics of farmers that are associated with the intention to stay in agriculture are: being a resident of the **Adjara region**, being in the **30-60 age group,** having **VET & higher education,** and having an **optimistic outlook** in terms of the future development of target VCs. On the other hand, farmers for whom **intellectual resources** (skills and knowledge in agriculture, access to extension services, etc.) represent a challenge are less likely to stay in agriculture. Furthermore, farmers who report their **HH income being the same** during the last two or three years, or farmers who say that their **HH income** has decreased are also less likely to continue their engagement with agriculture.

**Some farmers are more inclined to quit agriculture (18%) and seek other employment, however, alternative employment opportunities are quite scarce – especially in rural areas.** This study found that farmers more

inclined to leave agriculture are oftentimes not sure of what else they could do. Quite a large share of the farmers inclined to leave agriculture state that they do not know the sector in which they wish to work (46%).

**In Georgia, farmers inclined to stay in agriculture would mostly like to continue farming on their own (76%).** While farmers see the benefits of cooperation with other farmers, they are still concerned with trust in potential partners. Therefore, most farmers prefer to work independently and be responsible for their products in terms of quantity as well as in quality. Even though farmers prefer to have their own production, they are willing to take a formal job if an employer offered them an acceptable salary. It can be suggested that on one hand, such an intention is linked with the low profitability of independent agricultural activities. On the other hand, such a decision is backed up by the fact that in case of paid employment, farmers still consider keeping their own agricultural activities, even on a lower scale.

**VCDs intend to continue their cooperation with smallholder farmers and consider switching solely to a large farming enterprise partnership model unrealistic at this point**. While maintaining and managing their own production is assessed as risky and too much trouble, cooperation with suppliers is a very convenient model of operation for VCDs. Considering the current market situation and the absence of many large suppliers, cooperation with smallholders remains the best supply management strategy. As this study found, VCDs have invested a lot of resources to build strong partnerships with smallholders, providing them various incentives (e.g. prepayments, free consultations, etc.) in order to increase trust and ensure loyalty. Considering the above-mentioned circumstances, VCDs see smallholder farmers as their primary suppliers/consumers for the nearest future.

**Contract farming is a desired mode of operation for many VCDs (60%), however limitations and constraints considering the current market situation are acknowledged.** In theory, contract farming is perceived as the most efficient and fool-proof planning and production method, with the main advantages being consistent product supply without delay, consistent product quality, and a fixed price for supplied products. In practice, however, all of the merits of contract farming are not considered applicable to the Georgian reality (except for single cases) at this time. Some VCDs do not feel prepared to establish contract-based relationships with their suppliers, since they do not have contract-based relationships with their consumers. A lack of readiness and eagerness of farmers to engage in contractual relations (fear of formal contracts, language barriers, etc.) is also outlined. Interestingly, the **younger generation** farmers are more likely to alter their perspectives and attitudes, consequently exhibiting a readiness to form contract-based partnerships. Such an outlook, however, is considered to be more realistic in the future.

**The model under which most VCDs currently operate (working with smallholders as customers or suppliers) is considered sustainable, however some current challenges and future market constraints are notable**. VCDs acknowledge the need to adjust to the demands of upgraded market standards (new regulations, standard requirements) in terms of **product quality** as well as **larger quantities,** and are trying to gradually catch up with upcoming market requirements. In this regard, the mitigation of current market constraints for VCDs as well as beneficiary farmers (challenges associated with the ability of the farmer to supply sufficient amounts and high-quality products) is of great importance so that they can answer to market demands according to the required standards.

FARMERS AND VCDs IN ARMENIA

**Farmers in targeted rural areas of Armenia are more inclined to stay in agriculture and continue their agricultural activities (81%).** The reasons behind the intention of farmers to stay in agriculture in Armenia are not very different from the reasons identified in Georgia. Considering the **labour market situation**, pursuing agricultural activities, at least on a subsistence level, is a widespread strategy of rural households to secure their livelihood. Taking into account the fact that agriculture can generate **stable income** for rural households, as well as the **experience** of rural farmers in agriculture because of it being a **traditional activity**, choosing agriculture as a coping strategy makes total sense for rural residents.

**Farmers with specific features are more inclined to stay in agriculture.** The study shows that farmers residing in the **Suynik region** are more likely to stay in the agricultural sector, in contrast to farmers residing in the Vayots Dzor region. Other features associated with the intention of farmers to stay in agriculture are **receiving extension services/consultations,** as well as **being optimistic about the prospects of target VCs**. Interestingly, in Armenia, **higher education** is negatively associated with farmers' decisions to stay in the agricultural sector. Farmers with higher education (Bachelor's degree and above) are more likely to quit agriculture than farmers with lower levels of education. Self-reported changes in income turned out to play a role; farmers who say that their **HH income decreased** over the last few years are less likely to stay in the agricultural sector.

**Most farmers in Armenia would like to continue their agricultural activities independently (86%).** For farmers, the most comfortable mode of operation is self-employment, since self-employed farmers are responsible for their own actions and not dependent on others. It is evident that farmers are well-aware of how self-employment works, and they are very used to this activity. Therefore, moving to other modes of operation without a guarantee of better results does not seem reasonable. Such an attitude can be explained by distrust in potential partners, a lack of information about the possible modes and benefits of cooperation, as well as no possibility of affording risk, since smallholder farmers are solely dependent on the income received from agriculture, and losing it would mean being left without any income at all.

**VCDs intend to cooperate with smallholder farmers over the next few years and do not intend to abolish their partnership (81%).** Willingness to cooperate with smallholder farmers can be explained by the complex reality, which makes switching to conducting business exclusively with larger farms unrealistic at this point. VCDs have no possibility, as well as no desire to switch completely to large suppliers, since there is an insufficient quantity of large suppliers and cooperation solely with them entails the risk of being left with no alternative supply. Moreover, VCDs have a long relationship history with smallholder farmers, which for many of them makes cooperation quite easy and comfortable (less bureaucracy, the possibility of paying in kind, favourable prices offered by smallholders).

**VCDs do not see the necessity to switch to contract farming and prefer to continue their cooperation with farmers based on verbal agreement**. For the purposes of the mentioned business transactions, this situation is regarded as sufficient and acceptable for both VCDs, who themselves do not have contracts with their own customers, and for farmers, for whom contract signing and the consequent formal imposition of liabilities incite negative attitudes.

COMPARATIVE REVIEW:

**A larger share of farmers in both Georgia and Armenia are more inclined to stay in agriculture**

**rather than quit their agricultural activities over the next two or three years.** The share of farmers that are more inclined to stay in agriculture is larger in Armenia than in Georgia. However, among the farmers who indicated a desire to stay in agriculture, a larger share of farmers in Georgia are thinking about increasing production. In Armenia, most farmers are thinking about maintaining their current level of production. **In both countries, VCDs feel more strongly than farmers about their intentions to stay and expand their activities**. Additionally, for VCDs, there is a difference in terms of prospects related to business growth, with a larger share of Georgian VCDs expressing the desire to expand and diversify their production. **The reasons behind the intention to stay in agriculture are quite similar in both countries**. For farmers, considering the complex reality they find themselves in (scarce job opportunities), and also taking into account their hands on experience, knowledge and skills, pursuing agriculture is a reasonable strategy to support their livelihoods. While for some farmers, stable income (and in certain cases profits) generated from agriculture plays an important role for their intention to stay in agriculture, for VCDs, the intention to stay is more vividly associated with profits gained from agriculture. Considering all of the above-mentioned factors, many farmers as well as VCDs in both Georgia and Armenia express the wish to stay in agriculture and to continue their agricultural activities in the near future.

# 1. Introduction

The given document is the Final Report of the Study of SDC Direct/Indirect Beneficiaries in Rural Georgia and Armenia prepared by Analysis and Consulting Team (ACT) for Swiss Cooperation Office (SCO) for the South Caucasus.

The research project was executed from May until September 2017. Fieldwork for the study was performed in July-August 2017.

This report reviews the research background, as well as research design including main study goals and research methodology. The main part of the report is dedicated to the results of the study, which are preceded by a short overview of the main findings.

The study results are presented separately for Georgia and Armenia. In addition, results of Farmers and VCD studies are presented in separate chapters for each country.

# 2. Background[1]

The Swiss Agency for Development and Cooperation (SDC) has been active in the economic development and the improvement of agricultural value chains in Georgia and Armenia for more than eight years, using a market systems development (MSD) approach. Based on good project results and the need for continued reform in this sector, SDC will not only stay engaged in the rural economic development of both countries, but also plans to expand its project activities and aims to establish stronger cross-border linkages within the whole South Caucasus region.

The current South Caucasus Strategy 2017-2020 focuses on improving value chains, supporting entrepreneurship, and creating a business enabling environment in order to further develop the agricultural sector. This approach envisions a progressive transformation to a more formal agricultural sector that will have an impact on small-scale farmers. The extent of this impact remains to be appreciated, together with the smallholders' perspectives on the development of the sector.

SDC's continued engagement and the new South Caucasus Strategy 2017-2020 offers the opportunity to address these questions both in the perspectives of small-scale farmers and value chain drivers. A study to this effect will enable SDC's programme to respond timely to the evolving needs of smallholders and relevant private sector entities, and accordingly lay the foundation for an informed policy dialogue with the respective governmental authorities.

[1] The subchapter is extracted from the document "Survey of SCO Beneficiaries in rural Georgia and Armenia - Terms of Reference of the National Consultant".

# 3. Aims and Objectives of the Study

The overall objective of the BS was to understand the views and opinions of project primary stakeholders (beneficiaries) on the development of the agricultural sector, as well as their role within this sector in terms of professional development. These beneficiaries are both (1) farmers and (2) value chain drivers, defined as enterprises (e.g. cheese processing plant, slaughterhouse, input supplier, dry fruit producer, etc.) that have received a direct benefit from one of the SDC-funded projects.

The specific objectives of the study were:

**In the case of <u>Farmers</u>:**

- **Future Outlooks**: To study future outlooks of farmers regarding: confidence in target value chains and their willingness to continue their engagement in agriculture; To understand the reasons behind farmers' intentions to continue their engagement in agriculture or to quit agricultural activities and to identify factors which affect their future outlooks; to understand whether farmers would like to continue working independently, in cooperation with other farmers, find formal employment or to combine self-employed farming with formal employment.
- **Contract Farming**: To study attitudes of farmers towards contract farming; to understand perceived advantages and disadvantages of the contracting practice.

**In the case of SDC beneficiary <u>Value Chain Drivers:</u>**

- **Future Outlooks**: To study future outlooks of VCDs regarding: confidence in target value chains and their willingness to continue their business; to understand the reasons behind VCD's intentions to continue their business or to quit and to identify factors which affect their future outlooks;
- **Cooperation with Smallholder Farmers**: To study intentions of VCDs to continue to work with smallholders or other options for their future development; to identify the specific reasons for a lack of willingness to continue to work with smallholders and enquire under which circumstances they would be willing to do so.
- **Contract Farming:** To study attitudes of VCDs towards contract farming; to understand perceived advantages and disadvantages of the contracting practice.

# 4. Research Design

In order to meet the above-mentioned research objectives, the study applied a mixed methods approach bringing together both qualitative and quantitative data. It involved a quasi-experimental approach by introducing treatment and control areas into the research design[2].

Within the frame of the research project, the following study methods were implemented:

(1) Survey of Farmers
(2) Survey of Value Chain Drivers / Enterprises
(3) Focus Group Discussions with Farmers
(4) In-depth Interviews with Value Chain Drivers / Enterprises
(5) In-depth Interviews (Case Studies) with Selected Farmers

In Georgia, the study covered four regions (Kakheti, Kvemo Kartli, Samtskhe-Javakheti, Adjara) and four value chains (dairy, meat, potatoes, honey), whereas in Armenia, the study covered two regions (Syunik, Vayots Dzor) and three value chains (dairy, meat, horticulture).

The table below presents a brief description of the research design for all research components in Georgia and Armenia.

**Table 1. Research Design for Studies in Georgia and Armenia**

| | Farmer Survey | VCD Survey | Farmer Qualitative Study | VCD Qualitative Study | Case Studies |
|---|---|---|---|---|---|
| ***Method*** | Quantitative | Quantitative | Qualitative | Qualitative | Qualitative |
| ***Technique*** | FTF interview | FTF interview | Focus group discussion | In-depth interview | In-depth interview |
| ***Target Groups*** | Indirect beneficiary[3] and non-beneficiary farmers | Value Chain Drivers / Enterprises | Indirect beneficiary farmers (male, female & young farmers) | Value Chain Drivers / Enterprises | Beneficiary farmers |

[2] Quasi-experimental design was applied for the Farmer Survey. The purpose for inclusion of treatment and control areas in the research design was exploratory in nature and aimed to determine any existing differences in future outlooks of farmers in terms of staying or quitting agriculture. This exploratory approach did not aim to determine impact of SDC support and is not appropriate for attributing the differences to SDC interventions.

[3] It is worth noting that as indirect beneficiary farmers are referred beneficiaries of VCDs. The VCDs receive direct benefit from SDC supported projects.

| | Farmer Survey | VCD Survey | Farmer Qualitative Study | VCD Qualitative Study | Case Studies |
|---|---|---|---|---|---|
| ***Sample size*** | **Georgia**: 1200 interviews **Armenia**: 600 interviews | **Georgia**: 124 contacts / 89 completed interviews **Armenia**: 102 contacts / 61 completed interviews | **Georgia**: 12 FGDs with farmers **Armenia**: 6 FGDs with farmers | **Georgia**: 12 IDIs with VCDs **Armenia**: 6 IDIs with VCDs | 2 case studies |
| ***Sampling Method*** | Two-stage cluster sampling with preliminary stratification | Census using the list of VCDs identified by SDC | Purposive sampling | Purposive sampling | Purposive sampling |
| ***Study Area/ Location*** | **Georgia**: Kakheti, Kvemo Kartli, Samtskhe-javakheti, Adjara **Armenia**: Vayots Dzor, Syunik | **Georgia**: Kakheti, Kvemo Kartli, Samtskhe-javakheti, Adjara **Armenia**: Vayots Dzor, Syunik | **Georgia**: Kakheti, Kvemo Kartli, Samtskhe-javakheti, Adjara **Armenia**: Vayots Dzor, Syunik | **Georgia**: Kakheti, Kvemo Kartli, Samtskhe-javakheti, Adjara **Armenia**: Vayots Dzor, Syunik | **Georgia**: Kakheti, Kvemo Kartli |
| ***Length of the Interview*** | 40-50 minutes | 40-45 minutes | 1.5-2 hours | 40-45 minutes | - |

## 4.1. Sampling Design for the Quantitative Survey

As mentioned above, the research design for the quantitative survey of farmers involved a quasi-experimental design. This approach necessitates the introduction of treatment and control areas, where correspondingly, the treatment group (i.e. indirect beneficiary farmers) and the control group (i.e. non-beneficiary farmers) were identified and interviewed.

The following definitions for the treatment and control areas were applied for the study.

**Table 2. Treatment and Control Areas**

| | | Indirect Beneficiaries | Non-Beneficiaries |
|---|---|---|---|
| **Treatment area** | Settlements where VCDs operate and settlements where VCDs have their beneficiaries[4]. | Farmers who reside in the treatment area | |
| **Control Area** | Settlements where VCDs do not operate and settlements where VCDs do not have beneficiaries.[5] | | Farmers who reside in the control area |

It can be suggested that in the areas where VCDs operate, all farmers involved in the target VCs (four VCs in Georgia and three VCs in Armenia) can be considered as indirect beneficiaries, since they are actually or potentially linked with the VCDs (are their suppliers or customers actually or potentially), and the VCDs have positive direct or indirect impacts on the welfare of these HHs.

Since the aim of the study is obtaining information about the prospects of farmers (and not an impact evaluation of project activities), including actual as well as potential beneficiaries of the study was considered the best approach. Such an approach enabled the drawing of a representative picture for the whole treatment as well as control areas, and enabled the comparison of the prospects of farmers residing in treatment and control areas.

### 4.1.1. Target Population of the Survey

The target population of the survey can be divided in two main groups:

1. **Value chain drivers** – Direct Beneficiaries
2. **Farmers**– Indirect Beneficiaries and Non-Beneficiaries

**Value Chain Driver (VCD) / Beneficiary Enterprise** – In the scope of this study, a VCD is defined as an enterprise (e.g. cheese processing plant, slaughterhouse, input supplier, dry fruit producer, etc.) who has received a direct benefit from one of the SDC-funded projects.

**Farmers** - As noted above, in the scope of this study, farmers were divided into indirect beneficiaries and non-beneficiaries. Each of them can be described as follows:

[4] The settlements with the share of indirect beneficiary farmers, considering the total number of HHs in the settlement, exceeds three percent, and all settlements with the number of beneficiaries lower than five HHs were excluded from the treatment area. These settlements were considered as control areas.

[5] Considering the conditions proposed in the sampling design, as well as the specifics of projects in Georgia and Armenia, there could be some positive spillover effects in the control areas, which implies that some small number of beneficiaries or indirect beneficiaries might be present in the control settlements. However, these spillover effects might be considered as minor for the purposes of this study.

- **Indirect Beneficiaries** – In the case of **Georgia**, farmers with sufficient resources [at least one animal (cattle, pig)] for food production, at least 0.3 ha for potato production, or at least five beehives) to produce agricultural products in four target value-chains (dairy, meat, potatoes, honey) during 2016. Indirect beneficiaries included all farmers who satisfy the above-mentioned criteria and reside in the **treatment area**, [i.e. villages/towns that are covered by the three programs in Georgia (MOLI, RED and ALCP)].
  In the case of **Armenia,** farmers with sufficient resources [at least one animal (cattle)] for food production or at least 0.01 ha for horticulture production to produce agricultural products in three target value-chains (dairy, meat, horticulture). Indirect beneficiaries included all farmers who satisfy the above-mentioned criteria and reside in the **treatment area**, [i.e. the villages/towns that are covered by two projects in Armenia (M4M and Livestock Development in the South of Armenia)].
- **Non-beneficiaries** – In the case of **Georgia**, farmers with sufficient resources [at least one animal (cattle, pig)] for food production, at least 0.3 ha for potato production, or at least five beehives)] to produce agricultural products in four target value-chains (dairy, meat, potatoes, honey). Non-beneficiaries included all farmers that satisfy the above-mentioned criteria and reside in the **control area**, [i.e. in other settlements of the same or neighbouring municipality that are covered by the three programs in Georgia (MOLI, RED and ALCP)].
  In the case of **Armenia,** farmers with sufficient resources [at least one animal (cattle)] for food production or at least 0.01 ha for horticulture production to produce agricultural products in three target value-chains (dairy, meat, horticulture). Non-beneficiaries included all farmers that satisfy the above-mentioned criteria and reside in the **control area**, [i.e. in other settlements of the same or neighbouring municipality that are covered by two projects in Armenia (M4M and Livestock Development in the South of Armenia)].

### 4.1.2. Sampling Approach

In the case of **Value Chain Drivers** (Direct Beneficiaries), the sampling approach was a census (i.e. all entities recorded in the lists delivered by the projects were contacted in order to schedule the interview).

**In the case of Farmers** (Indirect beneficiaries and Non-beneficiaries), two-stage cluster sampling with preliminary stratification was applied. This approach defines a Village/Census District/Electoral Precinct as a primary sampling unit (PSU); a household as a secondary sampling unit (SSU), which is selected using the random walk procedure; and the most informed household member as a final sampling unit (FSU).

## 4.1.3. Stratification

For the survey with farmers in Georgia as well as in Armenia, three stratification criteria were applied:

1. **Region**: Georgia - Kakheti, Kvemo Kartli, Samtskhe-Javakheti, Adjara; Armenia – Syunik, Vayots Dzor
2. **Settlement size**: Small (15-100 HH), Medium (101-300 HH), Large (HH 301+)
3. **Target Group/area:** Beneficiary settlements/treatment area and non-beneficiary settlements / control area

In the case of Georgia, in total, the sampling frame consisted of 25 municipalities of four regions where 1254 settlements were presented in the initial database. We excluded the villages from the sampling frame where less than 15 households reside (114 settlements). In the end, **1140** settlements were left in the sampling frame based on which the final sampling was undertaken.

**Table 3.**

| Region Code | Region | Municipality Code | Municipality | Total Number of Settlements | Number of Settlements in Control Area | Number of Settlements in Treatment Area | Total Number of HHs |
|---|---|---|---|---|---|---|---|
| 15 | Adjara | 15 23 | Keda | 62 | 57 | **5** | 3788 |
| 15 | Adjara | 15 25 | Kobuleti | 43 | 41 | **2** | 13764 |
| 15 | Adjara | 15 29 | Shuakhevi | 64 | 53 | **11** | 3914 |
| 15 | Adjara | 15 32 | Khelvachauri | 60 | 54 | **6** | 10916 |
| 15 | Adjara | 15 35 | Khulo | 76 | 50 | **26** | 5606 |
| 29 | Kakheti | 29 24 | Akhmeta | 39 | 33 | **6** | 9970 |
| 29 | Kakheti | 29 26 | Gurjaani | 30 | 29 | **1** | 17675 |
| 29 | Kakheti | 29 28 | Dedoplistskaro | 16 | 3 | **13** | 7412 |
| 29 | Kakheti | 29 30 | Telavi | 27 | 20 | **7** | 11629 |
| 29 | Kakheti | 29 32 | Lagodekhi | 67 | 57 | **10** | 12650 |
| 29 | Kakheti | 29 34 | Sagarejo | 39 | 25 | **14** | 13959 |
| 29 | Kakheti | 29 36 | Sighnaghi | 21 | 8 | **13** | 10426 |
| 29 | Kakheti | 29 38 | Kvareli | 20 | 18 | **2** | 9276 |
| 41 | Samtskhe-Javakheti | 41 23 | Adigeni | 53 | 15 | **38** | 4660 |
| 41 | Samtskhe-Javakheti | 41 25 | Aspindza | 26 | 6 | **20** | 3534 |
| 41 | Samtskhe-Javakheti | 41 27 | Akhalkalaki | 64 | 19 | **45** | 11175 |
| 41 | Samtskhe-Javakheti | 41 29 | Akhaltsikhe | 46 | 10 | **36** | 11531 |
| 41 | Samtskhe-Javakheti | 41 31 | Borjomi | 32 | 20 | **12** | 7924 |
| 41 | Samtskhe-Javakheti | 41 33 | Ninotsminda | 42 | 15 | **27** | 9359 |

| Region Code | Region | Municipality Code | Municipality | Total Number of Settlements | Number of Settlements in Control Area | Number of Settlements in Treatment Area | Total Number of HHs |
|---|---|---|---|---|---|---|---|
| 44 | Kvemo Kartli | 44 24 | Bolnisi | 47 | 29 | **18** | 14296 |
| 44 | Kvemo Kartli | 44 26 | Gardabani | 42 | 35 | **7** | 21253 |
| 44 | Kvemo Kartli | 44 28 | Dmanisi | 52 | 29 | **23** | 5672 |
| 44 | Kvemo Kartli | 44 30 | Tetritskaro | 54 | 43 | **11** | 6586 |
| 44 | Kvemo Kartli | 44 32 | Marneuli | 76 | 65 | **11** | 24759 |
| 44 | Kvemo Kartli | 44 34 | Tsalka | 42 | 19 | **23** | 5497 |
| | | | **Total:** | **1140** | **753** | **387** | **257231** |

In the case of Armenia, the sampling frame consisted of six municipalities of two regions where 145 settlements were left in the sampling frame based on which the final sampling was undertaken.

**Table 4.**

| Region Code | Region | Municipality Code | Municipality | Total Number of Settlements | Number of Settlements in Control Area | Number of Settlements in Treatment Area | Total Number of HHs |
|---|---|---|---|---|---|---|---|
| 1 | Syunik region | 1 | Goris | 24 | 2 | 22 | 4866 |
| 1 | Syunik region | 2 | Kapan | 35 | 35 | 0 | 2597 |
| 1 | Syunik region | 3 | Megri | 13 | 2 | 11 | 3192 |
| 1 | Syunik region | 4 | Sisian | 32 | 1 | 31 | 4353 |
| 2 | Vayots Dzor region | 5 | Egheghnadzor | 25 | 10 | 15 | 8368 |
| 2 | Vayots Dzor region | 6 | Vayk | 16 | 3 | 13 | 1989 |
| | | | **Total:** | **145** | **53** | **92** | **25365** |

### 4.1.4. Sample Size Allocation and Accuracy of Estimates

The sample size for each study component in Georgia as well as in Armenia was defined in the TOR and looks as follows:

**Table 5. Sample Sizes for Farmer Surveys in Georgia and Armenia**

| | Georgia | Armenia |
|---|---|---|
| Farmer interview (indirect beneficiaries + non beneficiaries) | **1200 F2F interviews**<br>300 interviews per target region (Kakheti, Kvemo Kartli, Samtskhe-Javakheti, Adjara) | **600 F2F interviews**<br>300 interviews per target region (Syunik, Vayots Dzor) |

The share of non-beneficiary farmers to be interviewed for each region was defined as 25%.

The Margin of Error (MOE) for the total sample as well as for various sub-groups of the sample was calculated. The table below presents MOEs considering a confidence level of 95% and DEFF 1.5.

**Table 6. Margin of Error - Georgia**

| Segment | Target Population (N) | Sample (n) | Confidence Level | MOE % |
|---|---|---|---|---|
| Treatment | 77769 | 895 | 95% | 4.0% |
| Control | 132149 | 313 | 95% | 6.8% |
| Total | 209918 | 1208 | 95% | 3.4% |

**Table 7. Margin of Error - Armenia**

| Segment | Target Population (N) | Sample (n) | Confidence Level | MOE % |
|---|---|---|---|---|
| Treatment | 12798 | 450 | 95% | 5.6% |
| Control | 4925 | 150 | 95% | 9.7% |
| Total | 17723 | 600 | 95% | 4.8% |

### 4.1.5. Data Weighting

The data weighting procedure implied the consideration of non-responses in the case of each country. Particular, from the estimated target population were subtracted households that could not satisfy the sampling criteria asked in the filter questions.

In the case of Georgia, the total target population, in treatment as well as control areas, was estimated to be 209918 HHs.

**Table 8.**

| Strata ID | Treatment/ Control | Size | Region | Total Number of HHs | Number of completed Interviews | Does not satisfy Sampling Criteria | Estimated Segment (HH) |
|---|---|---|---|---|---|---|---|
| **1** | Treatment | Small | Adjara | 1511 | 35 | 7 | **1259** |
| **2** | Treatment | Medium | Adjara | 2672 | 90 | 11 | **2381** |
| **3** | Treatment | Large | Adjara | 3088 | 90 | 34 | **2241** |
| **4** | Treatment | Small | Kakheti | 347 | 5 | 0 | **347** |
| **5** | Treatment | Medium | Kakheti | 4653 | 40 | 9 | **3798** |
| **6** | Treatment | Large | Kakheti | 27153 | 181 | 101 | **17428** |
| **7** | Treatment | Small | Samtskhe-Javakheti | 5423 | 36 | 1 | **5276** |
| **8** | Treatment | Medium | Samtskhe-Javakheti | 10930 | 71 | 5 | **10211** |
| **9** | Treatment | Large | Samtskhe-Javakheti | 19053 | 120 | 14 | **17062** |
| **10** | Treatment | Small | Kvemo Kartli | 1950 | 20 | 2 | **1773** |
| **11** | Treatment | Medium | Kvemo Kartli | 6564 | 71 | 11 | **5683** |
| **12** | Treatment | Large | Kvemo Kartli | 13342 | 136 | 40 | **10310** |
| **13** | Control | Small | Adjara | 8350 | 35 | 4 | **7494** |
| **14** | Control | Medium | Adjara | 10219 | 20 | 3 | **8886** |
| **15** | Control | Large | Adjara | 12323 | 30 | 12 | **8802** |
| **16** | Control | Small | Kakheti | 3257 | 5 | 0 | **3257** |
| **17** | Control | Medium | Kakheti | 10684 | 10 | 1 | **9713** |
| **18** | Control | Large | Kakheti | 47087 | 60 | 10 | **40360** |
| **19** | Control | Small | Samtskhe-Javakheti | 2895 | 10 | 0 | **2895** |
| **20** | Control | Medium | Samtskhe-Javakheti | 3642 | 21 | 1 | **3476** |
| **21** | Control | Large | Samtskhe-Javakheti | 6402 | 46 | 3 | **6010** |
| **22** | Control | Small | Kvemo Kartli | 5461 | 10 | 2 | **4551** |
| **23** | Control | Medium | Kvemo Kartli | 11825 | 21 | 5 | **9551** |
| **24** | Control | Large | Kvemo Kartli | 39222 | 45 | 20 | **27154** |
| | | | | **258053** | **1208** | **296** | **209918** |

In the case of Armenia, the total target population, in treatment as well as control areas, was estimated to be 17723 HHs.

**Table 9.**

| StrataID | Treatment/ Control | Size | Region | Total Number of HHs | Number of completed Interviews | Does not satisfy Sampling Criteria | Estimated Segment (HH) |
|---|---|---|---|---|---|---|---|
| **1** | Treatment | Small | Syunik region | 1731 | 30 | 15 | **1154** |
| **2** | Treatment | Medium | Syunik region | 2666 | 53 | 26 | **1789** |
| **3** | Treatment | Large | Syunik region | 7782 | 142 | 52 | **5696** |
| **4** | Treatment | Small | Vayots Dzor region | 555 | 25 | 23 | **289** |
| **5** | Treatment | Medium | Vayots Dzor region | 1482 | 80 | 43 | **964** |
| **6** | Treatment | Large | Vayots Dzor region | 3899 | 120 | 41 | **2906** |

| StratalD | Treatment/ Control | Size | Region | Total Number of HHs | Number of completed Interviews | Does not satisfy Sampling Criteria | Estimated Segment (HH) |
|---|---|---|---|---|---|---|---|
| **7** | Control | Small | Syunik region | 1674 | 25 | 24 | **854** |
| **8** | Control | Medium | Syunik region | 304 | 20 | 11 | **196** |
| **9** | Control | Large | Syunik region | 851 | 30 | 14 | **580** |
| **10** | Control | Small | Vayots Dzor region | 436 | 5 | 6 | **198** |
| **11** | Control | Medium | Vayots Dzor region | 130 | 10 | 4 | **93** |
| **12** | Control | Large | Vayots Dzor region | 3855 | 60 | 17 | **3004** |
| | | | | **25365** | **600** | **276** | **17723** |

Weight coefficients were calculated for each post stratification value using the following formula:

$$w_i = \frac{\acute{N}_i}{n_i}$$

Where:

$w_i$ is a sample weight for $i$th stratum

$\acute{N}_i$ is a estimated population size for $i$th stratum

$n_i$ is a sample size for $i^{\text{th}}$ stratum

## 4.2. Sampling Design for Qualitative Study

The sampling strategy for the qualitative study involving Focus Group Discussions and In-depth interviews was **purposive/judgmental sampling**. This purposive sampling method implies selecting study participants based on judgement according to their relevance to the study needs. FGD participants and IDI respondents were selected using the lists delivered by the SCO and/or its partners.

The target group of the FGDs were male as well as female farmers, including young farmers (up to 30 years of age), who were identified as beneficiaries by the VCDs. In the case of Georgia, separate FGDs were organized for male farmers, for female farmers, and for younger farmers. As for Armenia, in order to account for project specifics (M4M and Livestock Development in the South Caucasus), and in particular to cover both projects, value chains and target regions, FGDs were conducted separately for male and female farmers, whereas younger farmers were included in each of these groups. The FGDs and IDIs were conducted in two rounds: before and after the survey. The first round of FGDs & IDIs was mainly used to develop the quantitative survey questionnaire. The second round of FGDs & IDIs was used to deepen the understanding of the survey findings, thus it was implemented after the initial analysis of the survey data.

The table below presents the composition of the FGDs for Georgia as well as for Armenia.

**Table 10. FGD Composition for Georgia and Armenia**

| FGD Composition | Value-Chain | FGD Location | Number of FGDs | Round |
|---|---|---|---|---|
| **GEORGIA (12 FGDs in total)** | | | | |
| Male Farmers | Meat/Dairy | Kakheti | 1 FGD | I round |
| Female Farmers | | | 1 FGD | I round |
| Young Farmers (mixed gender group) | | | 1 FGD | I round |
| Male Farmers | Meat/Dairy/Potato | Kvemo Kartli | 1 FGD | II round |
| Female Farmers | | | 1 FGD | II round |
| Young Farmers (mixed gender group) | | | 1 FGD | II round |
| Male Farmers | Meat/Dairy/Potato | Samtshke-Javakheti | 1 FGD | II round |
| Female Farmers | | | 1 FGD | II round |
| Young Farmers (mixed gender group) | | | 1 FGD | II round |
| Male Farmers | Meat/Dairy/Honey | Adjara | 1 FGD | II round |
| Female Farmers | | | 1 FGD | II round |
| Young Farmers (mixed gender group) | | | 1 FGD | II round |
| **ARMENIA (6 FGDs in total)** | | | | |
| Male Farmers (including at least two young participants) | Horticulture | Syunik | 1 FGD | I round |
| Female Farmers (including at least two young participants) | Horticulture | Syunik | 1 FGD | I round |
| Male Farmers (including at least two young participants) | Livestock | Syunik | 1 FGD | II round |
| Female Farmers (including at least two young participants) | Livestock | Syunik | 1 FGD | II round |
| Male Farmers (including at least two young participants) | Livestock | Vayots Dzor | 1 FGD | II round |
| Female Farmers (including at least two young participants) | Livestock | Vayots Dzor | 1 FGD | II round |

The table below presents the composition of the IDIs for Georgia as well as forArmenia.

**Table 11. In-depth Interviews with VCDs in Georgia and Armenia**

| FGD Composition | Value-Chain | IDI Location | Number of IDIs | Round |
|---|---|---|---|---|
| **GEORGIA (12 IDIs in total)** | | | | |
| VCD | Meat/Dairy | Kakheti | 3 IDIs | I round |
| VCD | Meat/Dairy/Potato | Samtshke-Javakheti | 3 IDIs | II round |
| VCD | Meat/Dairy/Potato | Kvemo Kartli | 3 IDIs | II round |
| VCD | Meat/Dairy/Honey | Adjara | 3 IDIs | II round |
| **ARMENIA (6 IDIs in total)** | | | | |
| VCD | Horticulture | Syunik | 2 IDIs | I round |
| VCD | Meat/Dairy | Syunik | 2 IDIs | II round |
| VCD | Meat/Dairy | Vayots Dzor | 2 IDIs | II round |

# 5. Summary of the Main Findings

The summary of the main findings reviews quantitative and qualitative study results for farmers as well as value chain drivers, separately for Georgia and Armenia. The comparative review of the study findings in Georgia and Armenia is also presented.

## 5.1. Farmer Study in Georgia

### Confidence in Meat, Dairy, Potato, and Honey Value Chains

Overall farmers' confidence in the development of the four target VCs (meat, dairy, potato, honey) in their respective regions of Georgia are positive. All four VCs are inclined towards a more optimistic assessment, with the average response across the sample coming out at four or five on a seven-point scale, in which a score of one indicates very pessimistic and seven indicates very optimistic.

A comparison of the above-mentioned four VCs shows that farmers feel more optimistic about the **meat** (average score = 4.85) and **dairy** (average score = 4.72) value chains, followed by the **potato** VC (average score = 3.96). An assessment of the prospects of the **honey** VC (average score = 3.73) is the lowest.

Confidence levels in their own agricultural activities looking forward five years illustrates a similar trend. Farmers involved in the **meat** and **dairy** VCs are more confident in the prospects of their farms than farmers involved in the **potato** and **honey** VCs. The mean score for confidence in the future of dairy and meat farming stands at almost five for farmers in the dairy and meat VCs. Farmers in the potato and honey VCs score an average response of 4.3 and 4.0, respectively.

### Intentions of Farmers to Stay in or Quit Agriculture

As survey results demonstrate, over the next two or three years, farmers are more inclined to **stay in agriculture** rather than quit their agricultural activities, which is evidenced by the share of positively inclined respondents (providing scores of 5, 6 and 7) equalling 64%.[6] Thirty-six percent of respondents assess their intention to stay, with the highest score of seven. Eighteen percent of farmers are more inclined to leave agriculture, whereas 18% exhibit neutral attitude (score four).

#### Desire to Stay and Reasons Behind It

The most prevalent reason for **the wish to stay in agriculture** turned out to be the **nonexistence of another source of income in rural areas,** named as a reason by 60% of farmers. Farmers note that in rural areas, agriculture is the main income generating activity. Therefore, in order to take care of their families, almost all rural residents are involved in agriculture. This major reason is followed by the assertion that **agriculture generates a more or less stable income** (33%). Some farmers wish to pursue agricultural activities, since in their opinion **agricultural activities are profitable** (18%), whereas other farmers name the **ability to generate additional income** apart from other income generating activities of the HH (16%).

[6] An assessment was performed on a 7-point scale, where 1 = do not wish to stay at all and 7 = very much wish to stay.

There are several factors that may provide an explanation for the above-mentioned findings.

First and foremost, farmers' intentions to stay in agriculture are preconditioned by the **situation on the labour market**. As farmers note, the opportunities for the alternative employment of farmers and their HH members are very scarce. Despite the fact that farmers face many challenges in their agricultural activities, they are much more acquainted to those and are better able to deal with them when compared to the constraints associated with entering the job market in another field. The above-mentioned reason is further supported by the finding that farmers more inclined to leave agriculture are oftentimes not sure of what else they could do. Quite a large share of farmers, among those farmers inclined to leave agriculture, state that they do not know the sector in which they wish to work (46%).

Secondly, the **knowledge, skills and experience** of farmers plays an important role in explaining the intention of farmers to stay in agriculture. Some farmers note that agriculture is the field in which rural residents have extensive experience, and therefore the knowledge and skills that can be used for income generation. It is noted that many rural residents do not have any other experience that can bring income to their families, apart from agriculture.

Thirdly, for rural farmers, agriculture represents a "**natural habitat**". Agriculture is seen as a very natural activity for the residents of rural areas, since agricultural activities are and have been part of the life of rural HHs for a long time. The exposure of almost all members of rural families to agriculture from early childhood makes farming a very natural activity to pursue. Some farmers directly linked their desire to stay in agriculture with the long **tradition** of pursuing agricultural activities in their families. Some farmers directly explain their willingness to stay in agriculture with the fact that agriculture is a traditional activity of their family, and it is an activity that will be continued by their successors (noted by eight percent of respondents). Farmers note that they have been raised in an environment where farming and taking care of animals was a part of everyday life, so they are used to this work, enjoy it, and would like to pursue it in the future. Moreover, it is suggested that to some extent, **at least on a subsistence level**, that rural HHs will always be involved in agricultural activities, despite any other employment they might have. Agricultural activities in rural areas are considered to be a usual activity that can generate additional income or at least food for the HH's private consumption, apart from the other income generating activities of HH members.

Fourthly, pursuing agricultural activities has an added value for some farmers. Having their own agricultural production enables them to produce their own products, which are both **cheaper** and **healthier**. Apart from the fact that farming HHs do not have to buy many food and drink products, **health benefits** is named as an advantage of the production of agricultural products at home. Homemade agricultural products are considered healthier by farming HH members, and they prefer to consume those products at home, as well as send their products to the HHs of their children or relatives living in urban areas.

In the end, for many farmers staying in agriculture is a natural thing to do, since for them it is a traditional activity. For some farmers, agriculture is the only field in which rural residents have the opportunity of

employment, on one hand due to the labour market situation, and on the other hand due to the experience, knowledge and skills they have. Therefore, they do not see any alternative income generating activity that they might start. Moreover, farming brings income and supports the HH in terms of food supplies on a subsistence level. A combination of all these advantages makes agriculture a desirable field to work in, despite the many challenges farmers face in the process. Thus, being involved in agriculture represents the best coping strategy, considering all of the above-mentioned factors.

Importantly, farmers in Georgia that wish to stay in agriculture are **optimistic about their future**. Almost every second respondent, (45%) indicated a desire to **increase their production** over the next two or three years, whereas a quarter of the respondents (24%) expressed a **desire to diversify** their production. A majority of farmers that expressed a wish to diversify their production mention animal husbandry as a desirable way to expand their agricultural activities (55%).

## Desire to Quit and the Reasons Behind It

The major **reasons for leaving agriculture** identified through the study are the inability to generate stable income through agriculture (48%) and agriculture not being a profitable activity (46%). Hypothetically, the possible reasons for quitting agriculture might be the farmer finding more profitable employment opportunities, which can ensure the income of his/her HH (formal or self-employment in another sector). However, overall, such cases are rather low in number, and as mentioned above, it is assumed that if a farming HH will stay in the rural area (and not migrate to urban settlements), it is less likely for him/her to quit agriculture fully.

Interestingly, while speaking about quitting agriculture, some farmers touched upon the perception of agriculture as a **less prestigious profession** compared to other activities (e.g. office work). Even though farmers will continue their agricultural activities, some of them do not wish for their children to be engaged in this field. While explaining the reasons behind such an attitude, farmers name such reasons as farming being a challenging activity that does not generate much income, as well as agriculture being less prestigious in general. In single cases, some farmers mentioned “dirty” work associated with agriculture (e.g. taking care of animals), which, in their opinion makes agriculture a less desirable field of employment, especially for youth).

Generally, **young people seem** to have less enthusiasm for agriculture. An analysis of intentions to stay in or quit agriculture by different age groups shows that a larger share of farmers aged 31-60 are inclined to stay in agriculture, whereas the younger (18-30) age group provided lower scores more frequently during the assessment. Reasons for young people not to stay in agriculture were also named, such as: (1) agriculture is not a profitable activity, (2) hard work is associated with agriculture, and (3) a desire to explore a different environment. Based on the qualitative inquiry, it can be suggested that such attitudes are more prevalent in mountainous villages.

A certain share of farmers inclined to leave agriculture indicated their wish to work in another sector (58%). Among the **desired sectors of employment instead of agriculture**, farmers named administrative work (14%), healthcare (6%), education (6%), and finance (5%). Almost half of the farmers (46%) could not name their desired sector of employment, whereas some farmers did not care about the sector, they just expressed a desire to have a job that would generate a stable salary (11%).

## Factors Associated with the Intention to Stay in or Quit Agriculture

A regression analysis was performed in order to explore the factors associated with the intentions of farmers to stay in agriculture or to quit their agricultural activities. Various characteristics of farmers such as gender, age, place of residence, involvement in a certain VC, education, etc. were inserted into the regression model in order to find out whether or not those factors are associated with the intention to stay in agriculture.

As regression results indicate, involvement in the **dairy VC** is positively associated with the likelihood of staying in agriculture, i.e. farmers in the dairy VC are more likely to continue their activities. Farmers residing in **Adjara** are more likely to stay in agriculture, whereas those residing in **Kvemo Kartli** or **Samtskhe-Javakheti** are less likely to stay in agriculture. Additionally, the **age group 30-60** is more likely to stay in agriculture. Looking at education as an independent variable shows that farmers with **VET & higher education** are also more likely to stay in agriculture. Farmers who optimistically **assess at least three VCs**, when asked about the prospects of the dairy, meat, potato and honey VCs in their region, are more likely to stay in agriculture.

There is a negative and significant effect of the intellectual resources on farmers' intentions to stay in or exit the agricultural sector. Farmers for whom **intellectual resources** (skills and knowledge in agriculture, access to extension services, etc.)[7] represent a challenge are less likely to stay in agriculture. Furthermore, farmers who report their **HH income being the same** during the last two or three years, or the farmers who say that their **HH income** has decreased are less likely to stay in agriculture.

[7] The factor of intellectual resources was derived from the factor analysis. For more details see p. 66

**Table 12. Regression Results**[8]

| Effect of Various Factors of Intention to Stay in or Leave Agriculture | | | | |
|---|---|---|---|---|
| # | Independent Variables | Positive Significant Effect | Negative Significant Effect | No Significant Effect[9] |
| 1 | Dairy VC | + | | |
| 2 | Adjara | + | | |
| 3 | Samtskhe-Javakheti | | - | |
| 4 | Kvemo Kartli | | - | |
| 5 | Economically Active Population (30-60) | + | | |
| 6 | VET & Higher Education | + | | |
| 7 | Optimistic Assessment of at Least Three VCs | + | | |
| 8 | Intellectual Resources | | - | |
| 9 | Household Income Stayed the Same | | - | |
| 10 | Household Income Decreased | | - | |
| 11 | Being in Meat or Honey VC | | | X |
| 12 | Residing in Treatment or Control Area | | | X |
| 13 | Gender of Respondent | | | X |
| 14 | Ethnicity of Respondent | | | X |
| 15 | Sale of Produced Products | | | X |

[8] For detailed regression results, see Annex #1.

[9] While working on the regression model, various variables were inserted into the regression and turned out to be insignificant. As regression results suggest, being male or female is not significantly associated with the likelihood to stay in or quit agriculture. Residing in treatment or control areas is also not significantly associated with the likelihood of staying in or quitting agriculture. Additionally, the ethnicity of the respondent as well as the sale of produced products turned out to be insignificant variables in the presented model.

## Treatment and Control Areas[10]

As survey results suggest, there are some differences in the characteristics as well as the attitudes of farmers residing in treatment and control areas. Overall, survey results show that farmers residing in treatment settlements are in a more favourable situation than farmers residing in control areas.

Farmers from treatment settlements are more actively involved in the **sale of agricultural products**. Reported sales of agricultural products harvested or produced by the farmers are higher in treatment locations (80%) than in control locations (73%).

Additionally, the share of farmers who are **willing to engage in contract farming** is higher in treatment areas (17%) than control area (14%).

Farmers from the treatment areas **had more loans** in 2016 than farmers from control areas (25% and 18%, respectively), which can be explained by the higher running costs for the agricultural activities of the former group.

A larger share of farmers from treatment settlements, **wish to increase their production** (47% VS 43%), and intend to invest in their farm over the next few years (18% VS 13%).

Even though farmers in treatment locations are more well off, as clearly shown by a comparison of the various characteristics and attitudes of farmers, there is no difference between these two groups in terms of the intention to stay in agriculture. Similar to the farmers in the treatment group, a majority of farmers in the control area are willing to stay in agriculture. Again, such intentions can be explained by the main reasons supporting the desire to stay in agriculture described above, which are relevant for farmers residing in treatment as well as control locations.

## Self-Employment, Cooperation, or Formal Employment

As research results show, most farmers wish to **continue their agricultural activities independently** (76%). The share of farmers that would like to **continue their activities in cooperation with other farmers** is rather low (four percent). A small number of farmers would like to find **formal employment in another farm or enterprise** (two percent) or **combine self-employed farming or self-employment** (four percent).

There are several factors that may explain the above-mentioned findings. Especially interesting is the small number of farmers willing to get involved in formal employment in larger farms or enterprises,

[10] Methodological Note: The purpose of including treatment and control areas in the research design was exploratory in nature and aimed to determine any existing differences in the outlook of farmers in terms of staying in or quitting agriculture. This exploratory approach did not aim to determine the impact of SDC support, and is not appropriate for attributing the differences to SDC interventions.

especially since the common narrative among the rural population often involves complaints about the absence of factories or enterprises that could create job opportunities for the rural population.

**Working Independently VS Formal Employment:** As a qualitative inquiry revealed, some farmers consider **independent agricultural activities** to be a best case scenario, provided a farmer has the ability and resources to pursue agricultural activities on his/her own, since he/she will be able to generate more income. However, if the farmer's resources are very scarce, paid employment might be a way out. Interestingly, for female farmers, full time employment might come in conflict with their gender roles at home. Having a full-time job is considered to leave females **with only a small amount of time to take care of their HH chores and family members** (children, husband or parents).

While discussing the possibility of self-employment and paid employment, some farmers noted that even though they prefer to have their own production, they would be willing to take a formal job if an employer offered them an acceptable salary. It can be suggested that on one hand, such an intention is linked with the low profitability of independent agricultural activities. On the other hand, such a decision is backed up by the given that in case of paid employment, farmers still consider keeping their own agricultural activities, even on a lower scale.

**Working Independently VS Cooperation:** A high share of farmers that prefer independence over cooperation with other farmers cite low trust in potential partners. These farmers prefer to work independently and be responsible for their products in terms of quantity as well as quality. They mention that other farmers might not deliver sufficient amounts, and might also experience issues with product quality (e.g. deliver falsified honey or milk with added water).

Remarkably, some farmers named various **advantages of cooperation**, even though the share of farmers willing to cooperate is rather low. Farmers who prefer to work in cooperation with other farmers name the following advantages: (1) the possibility of delivering larger amounts to buyers, (2) more guaranteed delivery of fixed amounts, (3) lower production costs, (4) the possibility of more knowledge and experience sharing, and correspondingly (5) bigger profits generated from agricultural activities. Farmers willing to cooperate with other farmers state that cooperation can yield larger amounts of products as well as a stable supply that can be guaranteed by different cooperative members backing each other if something goes wrong, which in turn can attract buyers. Cooperation reduces operating costs because farmers can hire the equipment together and share the costs for transportation of goods to the market if necessary. Gaining knowledge and experience from cooperative members is also named as an advantage of joining a cooperative.

## Contract Farming

Contract farming is a desired mode of operation for 15% of inquired farmers, however a larger share of farmers does not like the idea of contract farming (59%).

Survey results suggest that low awareness about the concept of contract farming as well as its perceived advantages might be an issue. About a quarter of farmers (26%) do not know whether they would like to get involved in contract farming or not. Moreover, more than half of the farmers who are not willing to get involved in contract farming could not provide any particular reason for the absence of their desire for this type of employment (59%). The absence of an opinion about the willingness, as well as the inability to provide a particular reason for a negative attitude can be an indication of low awareness with a new concept, which is not widespread on the current market.

According to the study results, contract farming as a hypothetical idea has many advantages as perceived by the farmers, however, major concerns exist in terms of the implementation of this concept in reality.

An obvious advantage of contract farming is the **guaranteed sale of produced products** (52%). Having a contract is considered an advantage in terms of guaranteed market access, since it saves both time and resources for the farmers. Moreover, contract farming represents a **guaranteed stable income** for the farmer (39%). Having a contract is considered a "safe" mode of operation that protects farmers from losses through guaranteed market access.

The concerns of farmers who are less inclined to get involved in contract farming are connected with internal as well as external factors. From an internal perspective, the constraint for involvement in contract farming is the need to produce fixed amounts of products (24%). Farmers' reservations are related to their **fear of not being able to deliver the necessary amount as well as an acceptable quality of products**. Having these reservations, farmers prefer not to be bound by contract terms, even though some of them realize that having a contract could be profitable. The inability to provide a stable supply was named as a reason that farmers in nearly every VC are unwilling to become involved in contract farming. These reservations are caused by the **challenges** the farmers face in their daily work. Farmers involved in the meat and dairy VCs mention challenges related to pastures and fodder for animals, which determine the amount of milk produced as well as its quality. Farmers involved in the potato VC mention challenges related to irrigation and the agricultural input necessary for the production of a high quality and sufficient amount of potatoes, as well as issues related to access to land, quality of soil and storage. Farmers involved in the honey VC mention the finances necessary for the special care of bees, which ensures a high quality of produced honey. All of these obstacles are named as constraints in terms of contract farming, because they are perceived by the farmers as risks in terms of the delivery of a necessary amount and the necessary quality of product. As for external factors, the **low prices of products** offered by contractors is considered a main constraint (11%). Some farmers perceive the offered prices as unfair, since they compare those prices with the prices of products in markets. The difference between the price they receive (e.g. for the raw milk) and the price of the final product on the shelf of a supermarket (e.g.

cheese) leaves them with the impression that the selling price of their product is too low. Some farmers still consider the possibility to sell to some buyers for a lower price, but they prefer to sell only part of their products, mainly excessive amounts they know that they will not manage to sell themselves. In such cases, farmers do not want to have a contract, because currently, they can sell their product anyway to buyers offering low prices without contracts.

Another reason for the low willingness of farmers to get involved in contract farming is connected to their **reservations to formalize their relationship with buyers**. On one hand, farmers have a fear of being bound by contract conditions, which deprives them of the possibility to sell for a better price if offered by another buyer. In addition, there is a level of existing distrust towards potential partners, because farmers have no guarantee that all contract terms will be met. If the contract is breached in this case, the appeal process could be quite expensive and smallholder farmers could not afford it. On the other hand, farmers do not see the need to formalize the relationship with buyers at all, because farmers have the positive experience of sales managed without a contract, and a contract represents personal relations between farmer and buyers. Therefore, some farmers see personal, informal relations based on positive past experiences as a safer way of cooperation with buyers.

## 5.2. Value Chain Drivers Study in Georgia

### Confidence in Meat, Dairy, Potato, and Honey Value Chains

Attitudes of the VCDs regarding the prospects of all four value chains (meat, dairy, potato, honey) within the following five year time frame are optimistic. Similar to the assessment of farmers, the most optimistic attitudes are exhibited within the **meat** and **dairy** VCs (assessed positively by 78% and 73%, respectively[11]), followed by the **honey** VC (assessed positively by 53%). The **potato** VC has the least positive evaluation among the VCDs (40%).

Survey results show that most VCDs feel confident about the prospects of their businesses over the next five years, with the largest share of VCDs in all VCs providing a positive assessment (Meat VC – 74%, Dairy VC – 80%, Potato VC – 78%, Honey VC – 100%).

### Intentions of VCDs to Stay in or Quit their Business

An absolute majority (96%) of the VCDs express the intention to remain in their business over the following two or three years.

[11] Assessment was performed on a 7-point scale (1 = very negative and 7 = very positive). The scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

### Desire to Stay and Reasons Behind It

The main reasons for the VCDs to remain in the business in which they currently operate are the **profitability of the business activity** (52%) along with **sustainable income** (44%), the **prospect of development/expansion** (36%), and a **love for the business activity** (32%).

Importantly, a majority of the surveyed VCDs (85%) not only intend to maintain their current business activity for the following few years, but also aims to **expand their existing businesses and increase production** (85%), as well as diversify their production (71%). Plans related to diversification are diverse: some VCDs would like to diversify in the direction of land processing (23%) and dairy production (23%), including the establishment of a dairy venture and the production of Georgian and European cheese, while some aim to diversify their business activities in the direction of livestock breeding (i.e. establishing slaughterhouses, packaged meat, acquisition of highly fertile cattle, etc).

### Desire to Quit and Reasons Behind It

The major reasons for a small share of VCDs leaning towards withdrawing from the businesses they operate are **unprofitability of the business activity** along with **unsustainable income**. It should also be noted that one of the surveyed respondents is already determined to shift their business focus from agriculture to another sector (namely tourism), while another VCD is yet to be decided on this subject.

## Cooperation with Smallholder Farmers

As evidenced by the research results, a majority of the VCDs currently cooperate with smallholder farmers, and therefore an almost absolute majority of VCDs (90%[12]) intend to work/cooperate with them over the next few years.

**Willingness to Cooperate:** A major reason for **maintaining working relations with smallholder farmers** includes the significance of social capital. For 53% of the VCDs, a long-standing history of professional relationship represents a primary incentive for upholding a partnership with smallholder farmers. Relationships developed over the years between smallholder farmers and the VCDs are not solely nourished by friendly compassion, but also have very rational motives. Besides the professional nature, the relations between VCDs and smallholders encompass meaningful human factors as well, as according to a some VCDs, they aid smallholder farmers to overcome various obstacles that are not necessarily directly linked to their respective business activities. VCDs have invested lots of resources for building this social capital, since such relationships with smallholder farmers both develops trust towards them and

[12] Assessment was performed on a 7-point scale (1 = definitely will not cooperate and 7 = definitely will cooperate). The scale was recoded as follows: more than likely won't cooperate = 1,2,3, neutral = 4 and more than likely will work/cooperate = 5,6,7.

protects their cooperation (ensures that farmers deliver to them and do not switch easily to other buyers offering better conditions or higher prices).

Future plans of cooperation with smallholders may also be explained by the mere fact that there is no sufficient number of large suppliers on the market with whom VCDs could potentially cooperate (26%). The small number of large suppliers on the market makes cooperation solely with them quite risky, because any challenges faced by them would leave VCDs with no alternative source of product supply (22%).

In addition, cooperation with smallholder farmers has some additional advantages. VCDs have the possibility to **pay smallholders in kind**, whereas large suppliers would not accept such a type of payment. Cooperation with large suppliers involves **more bureaucracy**, therefore cooperation with smallholders saves VCDs the resources necessary to deal with additional administrative work.

In the end, even though cooperation with large farmers and farming enterprises tends to be more advantageous, since it could save a considerable amount of time and human resources as it allows for both trading and/or purchasing large volumes of products and goods, considering the current market situation, switching solely to the large farming enterprise partnership model is generally deemed unrealistic by surveyed VCDs. Therefore, VCDs still consider smallholder farmers as their primary suppliers/consumers in the nearest future.

**Reluctance to Cooperate:** Reasons for **not intending to maintain working relations with smallholder farmers** over the next few years include (1) the inadequate quality of products produced by smallholder farmers, (2) an insufficient quantity of products, and (3) unfavourable payment conditions/prices. These three reasons mirror the farmers' responses as well: some smallholder farmers express reservations regarding the quantity as well as quality of products that are required from them. They also express their dissatisfaction with the prices offered by buyers.

## Contract Farming

Contract farming is a desired mode of operation for 60% of inquired VCDs, yet 23% of the respondents have no immediate plans for contracting with smallholder farmers, while 18% of the respondents are undecided on this subject.

In theory, contract farming is perceived as the most efficient and fool proof planning and production method. Main **advantages of contract** farming, named by a majority of VCDs, include a consistent product supply without delay (77%), consistent quality of products (28%), as well as the fixed price of supplied products (25%).

In practice, however, the merits of contract farming are not applicable to the Georgian reality (except from some single cases), despite the generally positive assessment of contract farming. The main

**disadvantage of contract farming** was identified as the absence of a contract between the VCDs and their customers (e.g. supermarket chains or restaurants) (14%). Some VCDs do not feel prepared to establish contract-based relationships with their suppliers, since they **do not have contract-based relationships with their consumers**. In this regard, **difficulty complying with and subsequently fulfilling contract-defined terms** (14%) was mentioned. Consequently, VCDs are incapable of signing contracts with smallholders because of no tangible guarantees that the smallholders will be able to fulfil the contract terms and conditions.

**A lack of readiness and eagerness of the farmers** to engage in contractual relations (14%) was also named. On the one hand, a smallholder farmer is incapable of guaranteeing that he/she will be able to fulfil the terms and conditions of the contract due to multiple factors (climate, season, etc.), while on the other hand, the said smallholder farmer generally prefers to have the security under which he/she is able to sell products at a fixed price, as opposed to being dependent on the market and consequently having to determine the fittest time to sell at a most profitable price.

Except in single cases, relationship-based partnerships between VCDs and smallholder farmers pose as one of the principal incentive factors for maintaining the already tried and tested business model, while such **formalities** as reading through, signing, and fulfilling the terms and conditions of a written contract represent hindering factors for the relationship. Furthermore, **language barrier** issues present in particular regions (Kvemo Kartli, Samtskhe-Javakheti) add to the predisposition to avoid the establishment of formal contract-based partnerships. Conversely, as opposed to providing certain relief in the VCD-smallholder farmer work process, contract farming often creates additional complications. Consequently, VCDs tend to prefer cooperating with smallholder farmers based on the "verbal contract" model.

Interestingly, as qualitative inquiry suggests, attitudes towards contract farming **may differ by age group**. Younger generation farmers are potentially more likely to alter their perspectives and attitudes, consequently exhibiting a readiness to form contract-based partnerships. Such an outlook, however, is considered to be more realistic in the long-term future.

Successful contract-based cooperation between VCDs within the Potato VC and smallholder contractors is also worth mentioning. A precondition of the above-mentioned contract is the planting and harvesting of an exact type of potato seed supplied by the contractor VCD. In this case, collection of the smallholder farmer's entire harvest is guaranteed. The above-described model of business partnership has been working successfully for the past several years, and consequently, VCDs are spared from having to persuade smallholder farmers of the superiority and potential advantages of such a model.

According to the study results, more than half of VCDs have no specific objections and fail to clarify why they would not engage in contract farming with smallholder farmers, which again can be linked to low awareness and comprehension of the advantages of contract farming. Therefore, spreading information about the above-mentioned positive cases of contract-based relations are important in terms of the involvement of more farmers in this business model.

## 5.3. Farmer Study in Armenia

### Confidence about Meat, Dairy and Horticulture Value Chains

Overall farmers' confidence in the future development of the four target VCs (meat, dairy, potato, honey) in their respective region in Armenia are close to average assessment and more inclined to a pessimistic pole, with the average response across the sample coming out at three or four on a seven-point scale where one indicates very pessimistic and seven very optimistic.

Comparison of the three VCs shows that farmers feel more optimistic about **horticulture** VC (average score = 3.56) followed by meat VC (average score = 3.10) and dairy VC (average score = 3.03).

The confidence levels in their own agricultural activities looking forward five years shows that farmers involved in **meat** and **horticulture** VCs are more confident in future prospects of their farm compared to farmers involved in **dairy** VC. The mean score for confidence in the future of their farming stands at 3.52 and 3.42 for farmers in meat and horticulture VCs respectively. Farmers in dairy VC score an average response of 3.25.

### Intentions of Farmers to Stay in or Quit Agriculture

As survey results demonstrate, over the next two or three years, farmers are more inclined to **stay in agriculture** rather than to quit their agricultural activities, which is evidenced by the share of positively inclined respondents (providing scores of 5, 6 and 7) equalling 81%.[13] Forty-five percent of respondents assess their intention to stay, with the highest score of seven. Thirty-six percent of respondents assess their intention to stay, with the highest score of seven. Fifteen percent of farmers are more inclined to leave agriculture, whereas 4% exhibit neutral attitude (score four).

#### Desire to Stay and Reasons Behind It

A major reason explaining the wish of farmers to stay in agriculture is that **agriculture is the only income source in rural areas** (78%). Some farmers link their desire to stay in agriculture with financial issues, and state that agricultural activities are **profitable** (17%) or at least generate **additional income** apart from the main HH income (15%). Interestingly, 12% of farmers mentioned the fact that agriculture is a **traditional activity** of their family and will be continued by their successors.

[13] Assessment was performed on a 7-point scale, where 1 = do not wish to stay at all and 7 = very much wish to stay.

Qualitative data provides explanations for the desires of farmers in Armenia.

Considering the **labour market situation**, pursuing agricultural activities, at least on a subsistence level, is a widespread livelihood strategy of rural households, since there are not many alternative employment opportunities for rural residents.

For farmers in Armenia, agriculture is a **traditional activity** for rural HHs, and it is an activity that HH members are used to pursuing for a long period of time. This finding emerged as one factor in support of remaining in the agricultural sector. Some farmers back up their willingness to stay with their passion for agriculture, which is sometimes connected with the long tradition of pursuing this activity in their families.

Choosing agricultural activities as a coping strategy makes sense for rural residents, since it enables them to save **some resources by producing food for their own consumption,** which is comparatively cheaper than buying products. Thus, subsistence level farming is considered as a very usual activity for rural residents, whereas remaining in the village and having no agricultural activities at all is viewed as unnatural. It is considered that any rural resident will try to produce some agricultural products, if not for sale, then at least for family consumption.

Interestingly, some motivators to stay in agriculture or to expand agricultural activities turned out to be connected to **emotional factors**, such as pride in one's own production and satisfaction with achievements in the field of agriculture. Specifically, in Meghri region, the motivation of farmers is nurtured by the popularity of local horticulture products throughout Armenia, which motivates them to stay in horticulture production and produce high-quality agricultural products.

In the end, despite all of the challenges farmers face in their farming activities, agriculture remains a desirable field of work. Most farmers mentioned that considering the current market situation, agriculture is the only income source in rural areas. Agriculture enables farmers to produce some income, as well as support their families with food supplies. Since farmers have a lot of experience in agriculture, this activity is an indivisible part of rural life, which further supports the decision of a large share of farmers to stay in agriculture.

It should be mentioned here that the future plans of Armenian farmers are compliant with their **rather pessimistic view** of the development of the various agricultural VCs discussed above. Among the farmers who indicated a desire to stay in agriculture, almost every second respondent (47%) noted that they intend to **maintain their current level of production** over the next two or three years, whereas 21% were thinking about decreasing their current level of production. On the other hand, 28 percent of farmers who wish to increase their current level of production are also worth mentioning, together with 36 percent of farmers expresses the desire to diversify their production. A majority of farmers who expressed the wish to diversify their production named animal husbandry as a desirable way to expand their agricultural activities (54%).

The major **reasons for leaving agriculture** are linked to the financial profitability of agricultural activities. Among farmers who are inclined to leave agriculture, 77% stated that agriculture is not a profitable activity, whereas 39% indicated that agricultural activities do not generate a stable income.

According to the study findings, y**oung people** are less enthusiastic about agriculture. Analysis of the future intentions to stay or quit agriculture by different age groups shows that the youngest age group (18-30) is providing lower scores more frequently while assessing their future intentions to stay in agriculture. Migration issues were also mentioned during the focus group discussions. It is noted that younger residents of villages are more inclined to migrate abroad or to urban areas and search for employment opportunities outside of the agricultural sector.

A certain share of farmers inclined to leave agriculture indicated their wish to work in another sector (62%). Among the **desired sectors of employment instead of agriculture,** farmers named administrative work (13%), education (13%), healthcare (12%), and construction (9%). Almost every third respondent (29%) could not name their desired sector of employment.

**Factors Associated with the Intention to Stay in or Quit Agriculture**

A regression analysis was performed in order to explore factors associated with the intentions of farmers to stay in agriculture or to quit their agricultural activities.

As regression results suggest, the variable **Suynik** has a positive and significant effect on farmers' willingness to stay in the agricultural sector (i.e. farmers residing in the Suynik region are more likely to stay in the agricultural sector, in contrast to farmers residing in the Vayots Dzor region). A closer look at treatment and control areas shows that residing in the **treatment area** is positively associated with staying in the agricultural sector (i.e. farmers living in the treatment area are more likely to stay in the agricultural sector, in contrast to farmers living in the control area). Interestingly, **higher education** is negatively associated with farmers' decisions to stay in the agricultural sector. Farmers with higher education (bachelor and above) are more likely to quit the agricultural sector, in contrast to farmers with lower levels of education. Self-reported changes in income turned out to play a role as well. As regression results indicated, a **decrease in household income** is negatively associated with the farmers' decisions to stay in the agricultural sector. Farmers who say that their HH income decreased over the last few years are less likely to stay in the agricultural sector. **Receiving extension services/consultations** is positively associated with the decision to stay in the agricultural sector (i.e. farmers who received extension services during the last four or five years are more likely to stay in agriculture). **Being optimistic about the prospects of dairy/meat/horticulture VCs** is also positively associated with the decision to stay in the agricultural sector (i.e. farmers who optimistically assess at least two Value Chains when asked about the prospects of dairy, meat and horticulture are more likely to stay in the agricultural sector).

**Table 13. Regression Results**[14]

| Effect of Various Factors of Intention to Stay in or Leave Agriculture | | | | |
|---|---|---|---|---|
| # | Independent Variables | Positive Significant Effect | Negative Significant Effect | No Significant Effect[15] |
| 1 | Suynik | + | | |
| 2 | Treatment | + | | |
| 3 | Higher Education | | - | |
| 4 | Household Income has Decreased During the Last 2-3 Years | | - | |
| 5 | Usage of Extension Services/Consultations | + | | |
| 6 | Optimistic Assessment of at two VCs | + | | |
| 7 | Being in Meat, Dairy or Horticulture VC | | | X |
| 8 | Gender of Respondent | | | X |
| 9 | Age of Respondent | | | X |
| 10 | Sale of Produced Products | | | X |

## Treatment and Control Areas[16]

The study identified some differences in the characteristics as well as the attitudes of farmers residing in treatment and control areas. Overall, survey results show that farmers residing in treatment settlements are in a more favourable situation than farmers residing in control areas. Farmers from treatment settlements are more actively involved in the **sale of agricultural products**. Reported sales of agricultural products harvested or produced by the farmers are higher in treatment locations (79%) than in control locations (51%).

The differences show up in the share of farmers who have attended **trainings** or received **extension services** – the share of farmers is also higher in treatment settlements in this regard (attendance of trainings - 25% VS 16%, receiving extensions – 19% VS 10%).

[14] For detailed regression results see Annex #2.

[15] While working on the regression model, various variables were inserted into the regression and turned out to be insignificant. Being male or female is not significantly associated with the likelihood of staying in or quitting agriculture. Additionally, the age of the respondent does not show a significant association with the intention to stay or quit. Being in a particular VC is also not significantly associated with the likelihood to stay in or exit the agricultural sector.

[16] Methodological Note: The purpose of including treatment and control areas in the research design was exploratory in nature and aimed to determine any existing differences in the outlook of farmers in terms of staying in or quitting agriculture. This exploratory approach did not aim to determine the impact of SDC support and is not appropriate for attributing the differences to SDC interventions.

A larger share of farmers from treatment settlements **wish to increase their level of production** (29% VS 24%); in addition, more farmers from treatment locations **intend to invest** in their agricultural activities than farmers from control settlements (22% VS 16%).

More farmers from treatment locations are inclined to stay in agriculture (86% VS 68%). Also, regression results show that residing in a **treatment area** is positively associated with staying in the agricultural sector (i.e. farmers living in the treatment area are more likely to stay in the agricultural sector than farmers living in the control area).

## Self-Employment, Cooperation, or Formal Employment

As research results show, most farmers w**ish to continue their agricultural activities independently** (86%). The share of farmers that would like to **continue their activities in cooperation with other farmers** is rather low (six percent). A small number of farmers would like to find **formal employment in another farm or enterprise** (three percent) or **combine self-employed farming or self-employment** (one percent).

The qualitative study provides further information about the reasons behind the small number of farmers willing to cooperate with other farmers.

Among the possible explanations for the low willingness of farmers to cooperate with other farmers is a **lack of information about the possible modes of cooperation**, as well as the **benefits of cooperation**. Some farmers mentioned that they are not aware of how cooperation could work and how this process could be managed. In addition, some farmers noted that they do not know if cooperation will yield better results, or if it will bring any results at all. On the other hand, farmers are well-aware of how self-employment works, and they are very used to this activity. Therefore, moving to other modes of operation without a guarantee of better results does not seem reasonable. The preference for independent work is also linked to the **anticipated risks of cooperation**. For farmers, the most comfortable mode of operation is self-employment, since they would be responsible for their own actions and not dependent on others. Their failure or their success would be in their own hands, and even if they would have the opportunity to receive more benefits through cooperation, they are not ready to risk their scarce resources. One possible reason for this situation could be that smallholder farmers are solely dependent on the income received from agriculture, and losing it would mean being left without any income at all.

## Contract Farming

Contract farming is a desired mode of operation for only three percent of inquired farmers.

Some farmers see the obvious advantages to contract farming. The farmers who are willing to get involved in contract farming consider the possibility to have **stable income** (46%) and **guaranteed sales of products** (42%) as advantages. Having guaranteed sales is considered to be a motivation for farmers to work harder and investment more in their agricultural activities. As the narratives of FGD participant farmers reveal, having guaranteed sales makes farmers' work "more meaningful" and creates the feeling that a farmer's efforts will not be wasted for nothing. In addition, not having to worry about the sale of products is considered the most comfortable mode of operation, since the farmer can then concentrate on production and devote the time and resources needed to produce high quality agricultural products.

**The lack of preparedness** among the farmers in terms of the **scale as well as the stability of their agricultural activities** can be considered a major issue contributing to the reluctance of farmers to get involved in contract farming. Farmers who did not express the wish to get involved in contract farming named the **need to produce fixed amounts of products** as a disadvantage (25%). Their response is connected to their **fear of not being able to deliver the necessary amounts of products** required by the contract. Some farmers noted that delivering fixed amounts **systematically** might present a challenge, while for others, producing products according to the **quality requirements** might be challenging. As some farmers noted, nowadays, while operating without a contract, they have the freedom to produce and sell according to their wishes. Some farmers believe that being responsible to deliver a fixed amount specified in a contract is certain burden.

**Low prices offered by contractors for products** (25%) represents another perceived disadvantage of contract farming. **The fluctuation of prices** of products (e.g. milk or fruit) by seasons is also named as a constraint by some farmers. **A lack of awareness** about the pros and cons of contract farming might also be an issue, since 18% of the farmers could not provide any particular reason for the absence of a desire to get involved in contract farming.

**Distrust** in potential contractors (five percent) is another factor affecting the willingness of farmers to get involved in contract farming. In this regard, some farmers note that the farmer should be very cautious, in order to protect himself/herself "from being fooled". Some farmers' negative attitudes towards contract farming are based on **negative experiences** while contracting (not receiving payment) by either themselves or by their acquaintances.

Having **positive experiences cooperating with buyers without a contract** represents another factor influencing the attitudes of farmers regarding contract farming. Having such positive cooperation experiences makes some farmers believe that contract farming is not something that they require, since they operate quite well without one.

## 5.4. Value Chain Drivers Study in Armenia

### Confidence in the Meat, Dairy, and Horticulture Value Chains

Attitudes of the VCDs regarding the prospects of all three value chains (meat, dairy, horticulture) within the next five years are more optimistic than pessimistic. A comparative assessment of the three VCs shows that the most optimistic attitudes are exhibited within the horticulture VC (assessed positively by 55%)[17], followed by the **dairy** and **meat** VCs (assessed positively by 50% and 47%, respectively).

An assessment of the confidence levels in their own businesses over the next five years shows that more than half of the VCDs feel more confident about the prospects of their businesses, (horticulture VC – 60%, meat VC – 57%, dairy VC – 55%).

### Intentions of VCDs to Stay in or Quit their Business

A large majority (93%) of the VCDs express the intention to remain in their business over the following two or three years.

#### Desire to Stay and Reasons Behind It

The main reasons for the VCDs to remain in the business in which they currently operate is the **love for the business activity** (35%), **profitability of the business activity** (28%), along with **sustainable income** (30%), the **perception of the business being promising** (25%), and the business activity being **traditional** (21%). Sixty-five percent of VCDs state that they intend to remain in their business because there is no other source of income in rural areas.

Importantly, a large share of surveyed VCDs not only intends to maintain their current business activity for the following few years, but also aims to **expand their existing businesses and increase production** (68%), as well as diversify their production (64%) within the next two or three years. Plans related to diversification are diverse: some VCDs would like to diversify in the direction of dairy (26%) and meat production (24%), while some aim to diversify their business activities in the direction of horticulture (21%) or agriculture service delivery (18%).

#### Desire to Quit and Reasons Behind It

The major reasons for a small share of VCDs (three VCDs) leaning towards withdrawing from the businesses they operate are **linked with financial issues: insufficient finances and outgoing work**

[17] Assessment was performed on a 7-point scale (1 = very negative and 7 = very positive). The scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

represent the primary reasons for intention to leave the current businesses VCDs are engaged in. Switching from agriculture to another sector (namely tourism) is also named in a single case.

## Cooperation with Smallholder Farmers

As evidenced by the research results, a majority of the VCDs currently cooperate with smallholder farmers, and a majority of VCDs (81%[18]) intend to work/cooperate with them over the next few years.

**Willingness to cooperate:** Willingness to cooperate with smallholder farmers can be explained by the complex reality, as well as the past experience of both VCDs and smallholder farmers. Central discourse revealed by the conducted qualitative research shows that the VCDs prefer conducting business with larger farms or farming enterprises, even though VCDs acknowledge that switching to conducting business exclusively with larger farms is unrealistic at this point. VCDs named several advantages of working with larger farms compared to smallholder farmers, such as more efficient and comfortable transactions, the possibility to spend fewer resources, and the overall comfort of cooperation with an experienced market player. However, considering the current market situation, VCDs have no possibility, as well as no desire to switch completely to large suppliers, since there is not a sufficient quantity of large suppliers (39%), and in case the VCD is completely reliable on them, their failure leaves the VCD with no alternative supply (18%). Furthermore, VCDs have a long relationship history with smallholder farmers (31%), which for many of them makes cooperation quite easy. VCDs emphasize some other advantages of cooperation wish smallholders, such as less bureaucracy, the possibility of paying in kind, as well as favourable prices offered by smallholders.

**Reluctance to Cooperate:** Reasons for not intending to maintain working relations with smallholder farmers over the next few years, include (1) the reliability of smallholder farmers, (2) unfavourable payment conditions/prices, or (3) a preference to have their own production.

## Contract Farming

An absolute majority of VCDs do not wish to establish a contract relationship with smallholder farmers. Only one VCD currently involved in contract farming is planning to continue this practice.

Forty-eight percent of respondents declared that they have no necessity to maintain or plan to enter into a contract with smallholder farmers. Twenty-three percent identified no specific objections and failed to clarify why they would not engage in such a working relationship with smallholder farmers. An equal share

[18] Assessment was performed on a 7-point scale (1 = definitely will not cooperate and 7 = definitely will cooperate). The scale was recoded as follows: more likely won't cooperate = 1,2,3, neutral = 4 and more likely will work/cooperate = 5,6,7.

of surveyed respondents identified no willingness of farmers to get involved and a lack of reliability as grounds for their refusal to contract smallholder farmers (eight percent).

With regards to contract farming, qualitative research results revealed that cooperation conditions between the interviewed VCDs and the farmers are founded on a verbal agreement, which for the purposes of the mentioned business transactions is regarded as sufficient and acceptable for the following several reasons: first and foremost, *contract signing and the consequent formal imposition of liabilities incites negative attitudes in farmers*, and is therefore avoided by VCDs at all costs. Secondly, contract signing tends to be complicated, due to *the seasonal nature of the business activity* (the above-mentioned factor particularly concerns the dairy VC), as the volume of the harvest/manufactured products varies depending on the season. In turn, price fluctuations are influenced. It should also be noted that *VCDs themselves do not have signed contracts with their own customers.* Hence, in addition to market instability posing a significant problem, VCDs are also not convinced that they are able to provide sufficient quantities of products to their customers. For these reasons, interviewed VCDs believe that transitioning to a contract farming model is unrealistic at this stage, as well as in the near future. However, interviewed respondents regard the contract farming model as significant not only just for the purposes of organizing their respective work processes, but also for the development of the country's economy in general.

## 5.5. Farmers and VCDs in Georgia and Armenia – Comparative Review

Overall, studies of farmers and VCDs in Georgia and Armenia resulted in quite similar findings, however, some differences are evident.

There are differences in the **outlook of farmers** in Georgia and Armenia regarding **confidence in the development of target VCs** in both countries. Whereas farmers *in Georgia* assess the future of the four target VCs (meat, dairy, potato, honey) as considerably optimistic (average evaluation is positively inclined, and equals 4-5 on average), farmers *in Armenia* have a more pessimistic assessment of the future of the target VCs (meat, dairy, horticulture) in their regions (an average assessment coming out at 3-4 on average).

A larger share of farmers in both countries are **more inclined to stay in agriculture** rather to quit their agricultural activities over the next two or three years. However, it should be mentioned that the share of farmers more inclined to stay in agriculture is larger in Armenia than in Georgia (81% VS 64%, respectively).

The **reasons behind the intention to stay in agriculture** are quite similar in both countries. As study findings suggest, agriculture is very much embedded in the lives of rural HHs in Georgia as well as in Armenia. Pursuing agriculture, at least on a subsistence level, is a very natural activity for residents of rural areas. There are several factors which foster this reality: a long history of being involved in agriculture and being used to this activity from childhood and having experience, knowledge, and skills in this field makes agriculture the best coping strategy for rural residents. The absence of other employment opportunities in rural areas represents an additional factor, which makes agriculture the only choice for

rural residents. From this perspective, despite all of the challenges farmers face, having agriculture as a focal point for their livelihood strategy appears to be natural. Considering the above-mentioned factors, many farmers in both Georgia and Armenia express the wish to stay in agriculture and to continue their agricultural activities over the next two-three years.

As for the **factors playing a role in terms of the intentions of farmers to stay in or quit agriculture**, territorial factors turned out to play a role in both countries. For Georgia, residing in the Adjara region, and for Armenia, living in the Syunik region turned out to be important in terms of a desire to stay in agriculture. In both countries, farmers who are more optimistic about the future of target VCs are more inclined to stay in agriculture. Farmers who report a decrease in their HH income over the last two or three years are more likely to leave agriculture.

As for the **Value Chain Drivers**, in terms of evaluating **future perspectives,** the most optimistic attitudes for the next five years were reported *in Georgia* towards meat (78%) and dairy value chains (73%) production chains. The prospects of honey (53%) and potato (40%) value chains were evaluated less optimistically. As for *Armenia,* the most optimistic attitudes were reported towards the horticulture (55%) value chain, and the less optimistic attitudes were identified for the dairy (50%) and meat (47%) value chains.

As for **the prospect of quitting or continuing the existing business activity,** reality does not significantly differ in Georgia and Armenia. While 96% of business operators plan on continuing their business activity *in Georgia,* the number of such business operators equals 93% *in Armenia.*

While 85% of business operators in *Georgia* expect to **expand their production** over the next two or three years, the number of such business operators is 68% in *Armenia.* Additionally, more business operators reported considering the **diversification of their activity** in *Georgia* (71%) than in *Armenia* (64%).

Business operators in both *Georgia* (90%) and *Armenia* (81%) are thinking about **cooperation with smallholder farmers** over the next few years. While *in Georgia*, the main challenge experienced while cooperating with smallholder farmers is reported to be the improper quality of produced goods (46%), payment terms/prices (63%) was named as the main challenge in *Armenia.* Regardless of these issues, a majority of the business operators in both *Georgia* (71%) and *Armenia (67%)* declared the absence of problems in cooperation with small farmers.

In terms of **contract farming,** it is quite interesting that 23% of business operators inquired in *Georgia* have a contract signed with small farmers, while there was only one such business operator in Armenia. A majority of business operators in *Georgia* were unable to provide specific reasons for not signing contracts with smallholder farmers, while the main reason provided in *Armenia* was that business operators simply “do not need this” (48%).

In Georgia, those who plan to cooperate with smallholder farmers in the future declare that their main reason is the stable provision of goods (77%). It is worth mentioning that contract-based farming is perceived as a positive activity in Armenia, but that it is believed to be unrealistic over the near future. On one hand, this belief is related to the fact that farmers are not well-prepared for this type of cooperation. This belief is also related to the seasonal nature of agricultural activity, as well as the lack of confidence among farmers that they will be able to fulfill their contract obligations. On the other hand, as believed

by Armenian business operators, the absence of contracts with their own customers is a serious obstacle for switching to a contract-based farming model. It is worth mentioning that the low level of eagerness among smallholder farmers to work within this model of farming, as well as the absence of contracts between business operators and their customers, are factors that were also reported in Georgia. It is quite interesting to see the significance of cultural peculiarities distinguished in Georgia, which is connected both to the importance of social capital, as well as to the lack of experience with formal business relationships.

# 6. Stories of Farmers

The chapter reviews stories of two beneficiary farmers in two regions of Georgia, in particular female farmer from Kvemo Kartli region and male farmer from Kakheti region.

# Building a Better Life for Smallholder Farmers – A Story of a Female Farmer from Kvemo Kartli

Gumbati village is located in the Tsakla municipality in the Kvemo Kartli region of south-west Georgia. The village is resided in by eco-migrants from mountainous Adjara. Historically, the village has been mainly a place of residence for Greek households, however, after the migration of their majority to their historical home country, upon the government's request, Georgian families have been coming to the village, settling down, and adjusting themselves to the new environment.

**Aishi**, a middle-aged (53) female farmer is one of the eco-migrants residing in Gumbati. Aishi arrived in the village after her husband passed away and she had to decide where to continue her life as a single mother with her only son. Her three brothers migrated to Gumbati several years ago, so Aishi decided to give up her rented apartment in Batumi, and to travel to Gumbati and start her new life there.

Settling in at a new place was not an easy endeavour. However, with help of her brothers and the community, Aishi started to adjust to the village environment.

> ***Aishi**: "I arrived in the village in 2005. I remember it was September. My husband passed away, I was left alone with my son. My brothers were living here and I preferred to live close to them. […] Initially I thought I would stay for five years – I was going to save some money and move back, but I got used to this environment and decided to stay."*

Today, a daily routine of Aishi's life involves taking care of livestock and producing milk, the cultivating horticulture in her yard, as well as working at a local grocery store, where she moved after being employed at a local cheese processing plant for her first couple of years in Gumbati. Her background helps her a lot in accomplishing all of her daily tasks – Aishi has experience working in agriculture since childhood at her household in mountainous Adjara, where she lived before her marriage. Aishi also graduated from a VET institution and has been working as a salesperson since she was 19.

Village Gumbati

Involvement in agriculture is beneficial to Aishi for various reasons. As Aishi mentions, in the village, everyone is involved in agriculture. Therefore, she takes care of livestock, as well as tries to maintain her vegetable garden. This is quite a challenge for her, especially in combination with her job at a grocery store. However, she is determined to maintain all of these activities in order to take care of her family. Stable income from agriculture is one of the main income sources for Aishi's household. Interestingly, for Aishi, involvement in agriculture is not only the source of income, but a way of integration into the local community. As

Aishi explains, she does not want to lag behind the rest of the villagers, especially since she has some history of residence in the city. Taking care of livestock as well as her kitchen garden is a great way to show that she is capable of being a successful rural farmer.

## Relationship with the Value Chain Driver and the Effect of SDC Assistance

Aishi started her cooperation with a cheese processing plant, run by Gumbati resident **Valeri Kakhadze**, as soon as she arrived in the village. First, Aishi worked at the plant processing cheese with other employees. After a couple of years, Aishi was offered a job at the local grocery store. Her new place of employment did not end the relationship between her and the value chain driver. Aishi continued to sell milk produced at her household to the cheese processing plant.

According to Aishi, the existence of a cheese processing plant in the village is very important for her livelihood. The latter not only was an employment opportunity for her while she was settling down in the village, but more importantly became her **stable source of income** for subsequent years. Recently, Aishi has completed **renovation of her house**. Having regular income from milk sales enabled Aishi to buy the materials for renovation using an **instalment purchase**, which was a great advancement for her. As Aishi mentions, in some instances, the cheese processing plant gives her money beforehand, which is very convenient for her, especially if she needs to pay bills or make larger purchases. As Valeri from "Tsalka+" notes, they apply the strategy of pre-payment upon the request of village residents, because they value their providers and try to ensure their loyalty to the plant. Since the business is growing, "Tsalka+" is capable of providing such

***Aishi**: "I never had a loan before. Thanks to my bosses, I managed to take the building materials with instalments for my house renovation. They really support me."*

**Value Chain Driver – Cheese Processing Plant "Tsakla +"**

Cheese processing plant "Tsakla +" was established in 2004 and has since been successfully operating and increasing its scale. The plant collects raw milk from rural farmers and processes it into different types of traditional Georgian cheese. The customers of "Tsalka+" are various restaurants and supermarkets in different regions of Georgia.

"Tsalka+" was established by eco-migrant Temuk Kakhadze, and is currently also managed by his son Valeri. Currently, apart from employing local village residents in the factory, the operation of "Tsakla+" ensures stable income for livestock farmers from the six villages in the Tsalka municipality.

***Valeri:** "It really means a lot to the farmers. Our Productivity has increased; we have included two additional villages. There are villages, which do not have the possibility to sell milk; they struggle to try to sell their cheese on the market; and [considering the product specifics] when you bring your products to the market, you have to sell, there is no turning back. We can process simultaneously in two shifts more than 20 tone of milk and store it appropriately. We have increased the price by 10 tetri in order to attract more milk producer farmers."*

incentives to farmers. As Valeri notes, SDC assistance played an important part in this success. It has enabled "Tsalka+" to upgrade equipment, and to correspondingly advance their production.

According to Aishi, most village residents, similar to her, are benefitting from **guaranteed access to market,** which exists because of the availability of a cheese processing plant in the village. Village residents have the possibility to sell their milk to the plant on a daily basis, and thus, to have a **stable and regular income.** The possibility to sell raw milk saves Aishi from the trouble of producing her own cheese for sales, which needs not only her time and resources, but is also connected with worrying about sales. The sale of cheese individually is associated to transportation costs, time spent on travel as well as sales on the market, and importantly with the risk of not being able to sell everything and, correspondingly, to the loss of spoiled products. Considering all of these challenges, Aishi considers it much more convenient and profitable to sell milk to the cheese processing plant.

> ***Aishi**: "It is easy for us to sell milk to the plant on a daily basis. In general, it is very difficult to work on milk processing, it needs a lot of time, you have to wash everything, therefore we prefer to sell raw milk; if we need cheese for our home, we can produce small amounts. […] [If the plant would not exist], we would have to sell on the market, and it would be very difficult. Today everything is different, there are new regulations, quality checks, and they might not allow you to sell."*

For a woman like Aishi, **saving time and resources** is very important. First of all, Aishi is able to work part-time at the grocery store, which represents an **important part of her household income**. Moreover, having the opportunity of employment as a salesperson is quite satisfying for her, since this job is related to her past experience working at a shop in Batumi. As Aishi says, many people are surprised when they hear that Aishi has actual education in sales. She is proud of this experience and is valued for it as well, which plays an important role in terms of her **self-fulfilment**.

An additional advantage of selling raw milk, according to Aishi, is that she saves herself from physical exhaustion. As Aishi notes, agricultural activities require a lot of energy and can be very exhausting, especially for women, which can negatively affect female **health**. Even though Aishi is very hard-working, she mentions that it is important for her not to get over-exhausted, because she takes her health very seriously. As an independent woman who takes care for her family alone, being in a good health is very important.

> ***Aishi**: "I know there is a lot to do in the city as well, but rural life is quite difficult. It is especially burdensome for women – we have to do physical work, be out in the sun – it is difficult. We all do it and are used to it, but I try not to do too much in order to avoid any health problems. There are women younger than me who have pain or other health issues due to extensive work. […] You should not let the work to "eat you up", you should "eat up" the work. "*

When speaking about her free time, Aishi mentions that in the village there are not many leisure opportunities, but sometimes having more time makes it possible for her to visit her neighbours or host guests at home. As Aishi suggests, even though not often, saving some

time enables her to enjoy her morning coffee in peace from time to time.

## A Look into the Future

As an active, hard-working woman, Aishi looks positively into the future. Aishi is going to maintain her agricultural activities, and wishes to increase the number of her livestock. Currently, in addition to her cows, she has two calves. She takes care of these calves to grow them into milking cows. According to Aishi, this will take two or three years, but it is worth the wait, because increasing the number of livestock will enable her to generate more income, since she has permanent access to the market through the cheese processing plant. Increasing the amount of milk is highly appreciated and encouraged by the cheese processor. Having not to worry about sales gives Aishi motivation and makes her future plans much more realistic.

As cheese processor Valeri notes, there is a high demand for their cheese. He mentions that he encourages farmers to get more livestock and produce larger amounts of milk. He also reassures them that involvement in livestock farming will always be profitable for them. A stable market and high demand for cheese enables "Tsalka+" to increase the price offering for farmers' milk. For farmers, seeing that the cheese processing plant is trying its best to offer better prices, seeing their friendly attitude and readiness to help (e.g. giving the farmers prepayment) creates loyalty towards the value chain driver. It is evident that the Kakhidze family is one that many village residents count on.

Overall, as Aishi puts forward, "living in the village leads inevitably to involvement in agriculture", however being protected from the challenges of agricultural production, such as access to the market and the sale of products, is not the case for every farmer. Luckily, it is the case for Aishi's household. Having the opportunity to have a stable income from agriculture is the main reason for her decision to stay in agriculture. Stable income is seen as the possibility to maintain a sustainable livelihood, have less worries, and make daily life better.

# Building a Better Life for Smallholder Farmers – A Story of a Male Farmer from Kakheti

Ikalto is an eastern Georgian village located in the Telavi municipality of the Kakheti region. The village is particularly renown for a monastery complex founded between the XI-XII centuries. The wine culture customary to the Kakheti region carries significant value for this village as well. Ikalto Qvevri School Academy opened in 2016, and is a host for wine conventions and international symposiums of *qvevri* wine. In addition to the significance of the wine culture, dairy production and livestock farming also represent traditional activities in the Kakheti region.

**Kakha** is a 34-year-old smallholder farmer born and raised in Ikalto. He is married to 28-year-old Mari, with whom he currently has two children. Six-year-old Tsiko is in the first grade, while two-year-old Nika has just started kindergarten.

Kakha's father died when he was only six, so the responsibility for raising and caring for him fell entirely on his mother. Unfortunately, she passed away several years ago, along with his brother, whose family is now cared for by Kakha.

Kakha and Mari have completed secondary education. Mari has never been officially employed, while Kakha is skilled in tiling. For years, he has been working in this profession in Georgia as well as in Russia (he worked in Ingushetia for a year and a half).

For the last four years, Kakha has been engaged in dairy production, during which he has actively been trying to expand his line of work. This business is presently the only field of work the farmer is occupied with, as it remains the only source of income sustaining two households (his and his brother's).


Ikalto Monastery

Everything started a few years ago, when Kakha and his friend took out a loan with which they were able to buy 30 cows. The friends parted soon after, so Kakha took over the business and continues to run it on his own. He now has 36 cows, and he employs two shepherds. He rents a farm in the valley for the winter season, while in summer he lets the cattle roam in the mountains. Kakha used to sell milk and produce cheese. According to him, cheese production is quite profitable yet labour-intensive, and having to do this job alone is extremely challenging, so he concentrated his efforts on milk production.

> ***Kakha**: "[When producing cheese] food safety, as well as a variety of other factors needs to be considered carefully, so having to work alone is really difficult. Therefore, I have decided to work on milk delivery so far."*

According to Kakha, dairy production was a traditional activity for his family and therefore he

has learned a lot about it since early childhood. He considers his knowledge and skills to be satisfactory for the job. Moreover, he reveals that he even conducts quite successful experiments in order to receive a greater yield.

> ***Kakha**: "My family has always owned livestock, so I know much about handling them... I have also been experimenting with dairy production: I feed the cows one type of food for one week and another type the following week - then I observe which one is better in what way, and how much milk the cows yield..."*

The profit from dairy production has been steadily increasing, so for the past two years Kakha has been able to afford to move his cattle to the mountains. He has also purchased a vineyard and a land plot. He is currently planning to lease land in the mountains to use as pasture for next year.

Kakha and Mari have been married for 10 years. Mari has never worked a job, and if she ever will, it will probably happen in the distant future ("When the children grow up and are independent"). Mari is not involved in her husband's line of work, as her primary responsibility is caring for the children and their home. According to Mari, their life has changed for the better, particularly over the last two years, ever since Kakha become engaged in dairy production. If their income was only sufficient to cover for their livelihood before, now they are able to afford a **more relaxed and comfortable life**. In particular, the family's **living conditions** have been improved (they have renovated their home), and they have purchased a variety of household items (such as a washing machine). Furthermore, Mari previously used to manage all household errands by herself, while she is currently able to hire a helping hand, which gives her the opportunity to devote more time to herself and her children.


Cheese Processing Plant "Nishebi"

For the time being, the couple's eldest child Tsiko is only occupied with her schoolwork as a first-grader, but the family plans to enrol her in **English and dance classes** next year. At that time, Kakha is considering **purchasing a car** for Mari, since taking the children to kindergarten, to school, or to other extracurricular activities is no small feat.

> ***Mari**: "Life has changed for the better. Having to survive and sustain ourselves was much more difficult in the winter when [Kakha] worked in tiling. Whereas his work is relatively steadier now and our income is much better as well."*
>
> *"I did not have any time or possibility to reflect on myself and what is better for me, while now I am more free to do so."*

When asked about the children's future, Mari asserts that allowing them to do what they desire to do is most important, however, she would be delighted if Nika decides to uphold his father's mantle and continue his work.

***Kakha**: "Now we are not restrained from enrolling our children in various clubs."*

*"I want to buy a car for Mari, since I am always running around, busy with this and that."*

## Relationship with the Value Chain Driver and the Effect of SDC Assistance

Kakha cooperates with value chain driver **David Botkoveli** - an individual entrepreneur to whom he sells produced milk. As a rule, Kakha delivers the milk himself to the factory in the summer, while in the winter, the value chain driver shows up at the mountain farm to take the product. According to Kakha, the price of milk at Botkoveli has increased by a margin of 10 tetri per liter over the last two years. Additionally, a grinding mill is available in the vicinity where feed for livestock can be purchased and paid for at a later time. The farmer considers this practice to be a substantial advantage.

According to the value chain driver, he has been successfully cooperating with an SDC-funded project the past two years. He has been able to purchase a refrigerator and a refrigerated van. The project also assists in the management of the grinding mill; nowadays the plant can process 1000 litters of milk per day, which is a great improvement compared to the previous 200 litter per day benchmark.

According to David Botkoveli, the partnership with Kakha is very successful. According to him, although he cooperates with dozens of farmers, he intends to not only maintain the existing collaboration with Kakha, but is also to engage in a new project with him. As it turns out, David has been awarded first place in the "Produce in Georgia" project, within the framework of which he aims to cooperate with Kakha.

***David**: "I have already negotiated with Kakha and promised to supply him with feed on the condition that he must ensure having at least several cows producing milk even in the winter, as it gets progressively difficult for us during the winter season... I am considering having joint ownership of livestock with Kakha."*

*"He is skilled and a promising farmer. Despite being so young, he has earned a reputation as a hard-worker... he is also determined and passionate."*

**Value Chain Driver – Cheese Processing Plant "Nishebi"**

Individual entrepreneur David Botkoveli started cheese production in 2008. Cheese processing plant "Nishebi" is currently producing "Sulguni" (a variety of Georgian cheese) and "Nadughi" (Georgian cottage cheese) that are sold on the Kakheti market, as well as at shops and restaurants. In addition to the cheese factory, the value chain driver owns a grinding mill that produces cattle feed.

## A Look into the Future

Kakha is planning not only to remain in agriculture, but to expand his activities within this sector. He intends to build a farm on the land plot he recently purchased.

Within the scope of the "Produce in Georgia" project, he aims to get involved in cheese production together with his current value chain driver. In the long run, Kakha wishes to open his

own cheese production factory and provide his own factory with milk from his farm.

> ***Kakha**: "I was a tiler by trade, I even worked abroad, but eventually nothing came out of it. It's better to do this job [dairy production]. It's quite profitable... I don't understand how anyone would refuse or not want to work in this field. I am able to support two households by working here, which I am very satisfied with."*

According to Kakha, dairy farming is a profitable line of business, and he is surprised that other people do not want to get involved. He asserts that the field has quite good prospects, and that he sees himself there in the future.

# 7. Research Results – Farmer Study in Georgia[19]

The study results for the farmers' study are presented in three main chapters:

**(1) Outlook of Farmers** – this chapter reviews the future intentions of farmers related to their agricultural activities. Information about confidence in agricultural activities, as well as intentions to stay or quit agriculture are presented. This chapter also includes data on their investment experience and intentions to invest in agriculture, as well as their experience of obtaining loans and their intentions in this regard. Challenges of agricultural activities that can negatively affect farmers' intentions to stay in agriculture are also reviewed.

**(2) Contract Farming** – The final chapter reviews the views and opinions of farmers on contracting practices, including the perceived advantages and disadvantages of contract farming.

**(3) Description/ Characteristics of Farmers and their Farming HHs** – this chapter provides an overview of surveyed farmers and their farming HHs in treatment and control settlements, and describes various characteristics of those HHs. Information about HH demographics, agricultural activities of HHs, their experience of attendance of trainings or receiving extension services and other characteristics of interviewed farmers are presented.

[19] Note: *** and ** indicates significance at 5% and 10%, respectively.

## 7.1. Outlooks of Farmers

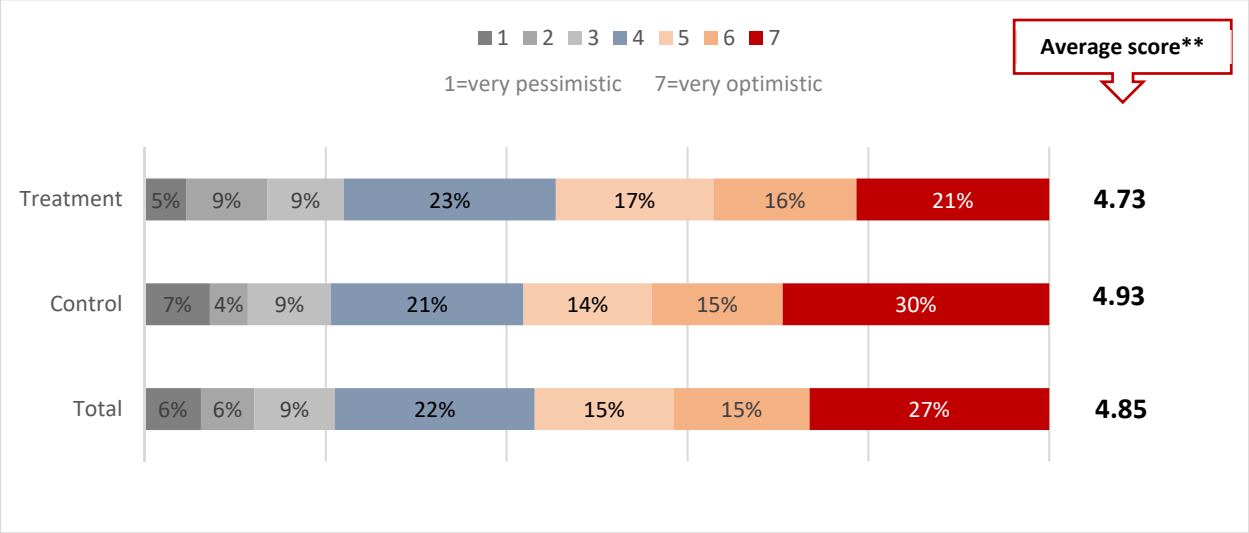
### 7.1.1. Confidence about Agricultural Activities and Intentions of Farmers to Stay in or Quit Agriculture

The main objective of the study was to understand the views and opinions of study participants on the future of the agricultural sector and their role within it, in terms of their intentions related to their agricultural activities. For this purpose, survey respondents were asked about their views on the future of various agricultural activities in general, as well as in the VC they are involved. Afterwards, farmers were asked about their intentions in relation to their future agricultural activities, (i.e. whether they intended to remain in agriculture or quit this sector).

Interviewed farmers were asked to assess their confidence in the **future of agricultural activities** related to the target VCs (dairy/meat/potato/honey) in their region over the next five years.

As survey results suggest, there is a general optimistic sentiment in regard to **dairy farming** among interviewed farmers. Fifty-seven percent of respondents feel rather confident about the future of dairy farming in their region (respondents providing scores 5, 6 and 7), with the average response across the sample coming out at 4.85 on a 7-point scale, where 1 indicates very pessimistic and indicates 7 very optimistic. As for the difference between treatment and control settlements, the average assessment is comparatively higher in control settlements (4.93) than treatment settlements (4.73).

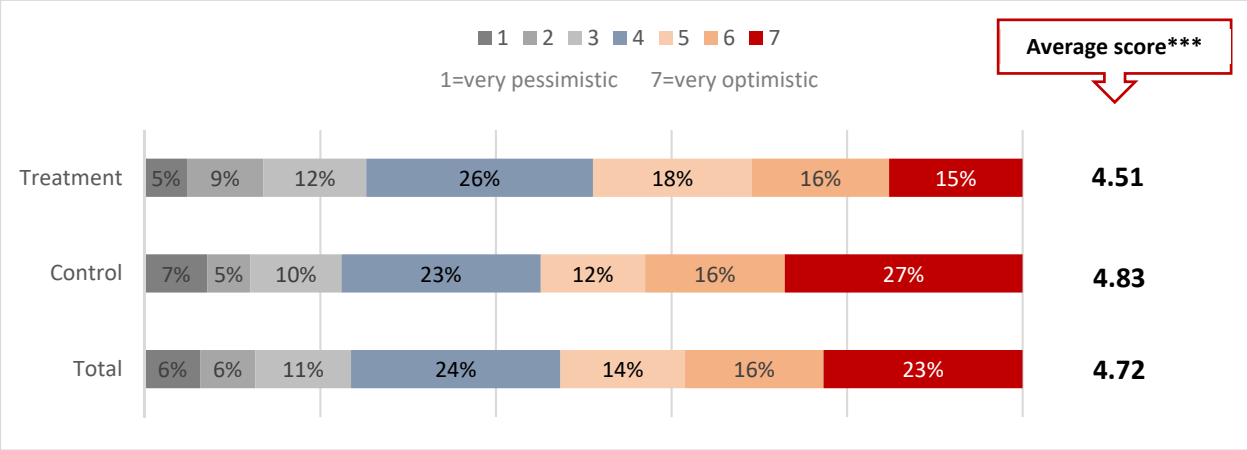
**Figure 1. Views about the Future of Dairy Farming (General Assessment in Own Region) *****




*N=1218*

As for the views of farmers in terms of **meat production**, a positive trend is also evident. More than half of respondents (53%) were confident about the prospects for meat production in their region over the next five years (providing scores 5, 6 or 7), with 23% giving the highest confidence rating of 7, which led to an average rating of 4.72. The share of farmers who provided a positive evaluation is comparatively higher in control settlements (the share of respondents providing scores 5, 6, or 7 is 55%) than in treatment settlements (the share of respondents providing scores 5, 6, or 7 is 49%).

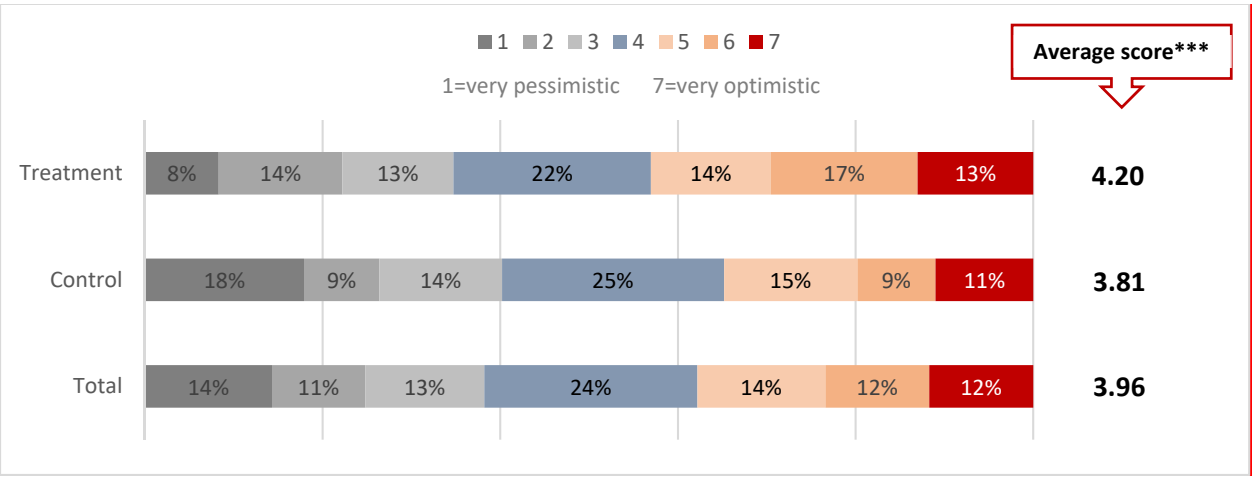
**Figure 2. Views about the Future of Meat Production (General Assessment in Own Region) *****




*N=1218*

The prospects of **potato production** are comparatively lower. The mean score for confidence in the future of potato production equals 3.96. The share of positively inclined respondents providing a score of 5, 6, or 7 is 38%. A comparison of treatment and control locations shows that farmers in treatment areas have a more positive outlook in terms of potato production in the future compared to farmers from control settlements (the average score for treatment is 4.20 vs 3.81 for control).

**Figure 3. Views about the Future of Potato Production (General Assessment in Own Region) *****

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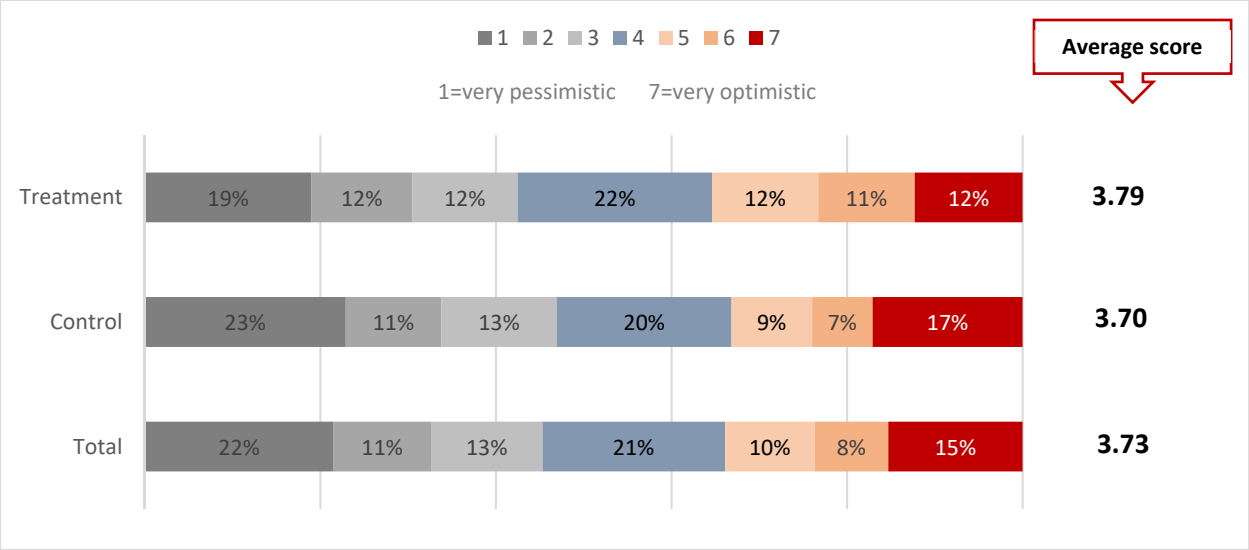
The assessment of perspectives of **honey production** are comparatively pessimistic compared to the assessment of confidence in other VCs. The overall score provided by the total sample/all interviewed farmers equals 3.73. Still, every third surveyed farmer (33%) feels optimistic about the development of honey production in their region over the next five years. A comparison of treatment and control areas does not show any significant difference.

**Figure 4. Views about the Future of Honey Production (Assessment in Own Region) *****




*N=1218*

Survey participant farmers were also asked about their confidence in **their own agricultural activities** looking forward five years. As survey results show, farmers involved in dairy and meat VCs are more confident in the future of their farm when compared to farmers involved in potato and honey VCs. The mean score for confidence in the future of dairy and meat farming stands at almost 5 for farmers in dairy and meat VCs. Farmers in potato and honey VCs score an average response of 4.3 and 4.0, respectively.

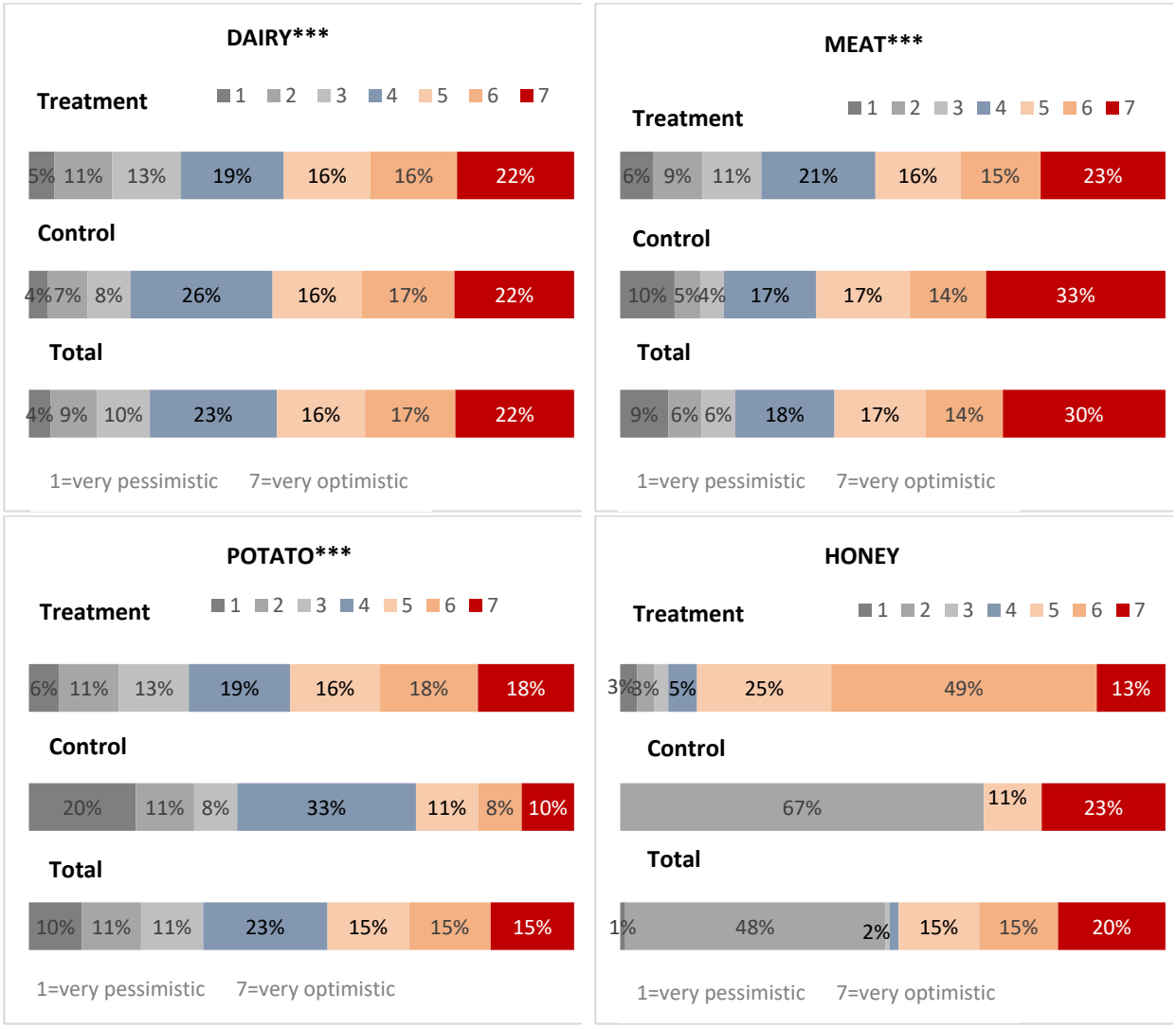
**Table 14. Views about the Future of Dairy/Meat/Potato/Honey Production (Assessment of Own Agricultural Activities) (Mean Values)**

| Mean | Treatment | Control | Total | |
|---|---|---|---|---|
| **Dairy** | 4.6 | 4.8 | 4.8 | *N=943* |
| **Meat** | 4.7 | 5.0 | 4.9 | *N=306* |
| **Potato*** ** | 4.5 | 3.7 | 4.3 | *N=340* |
| **Honey** | 5.4 | 3.5 | 4.0 | *N=30* |

A look at the percentage distribution of confidence in the agricultural activities of farmers reveals that in the case of farmers involved in dairy and meat VCs, a majority of respondents have a positive outlook

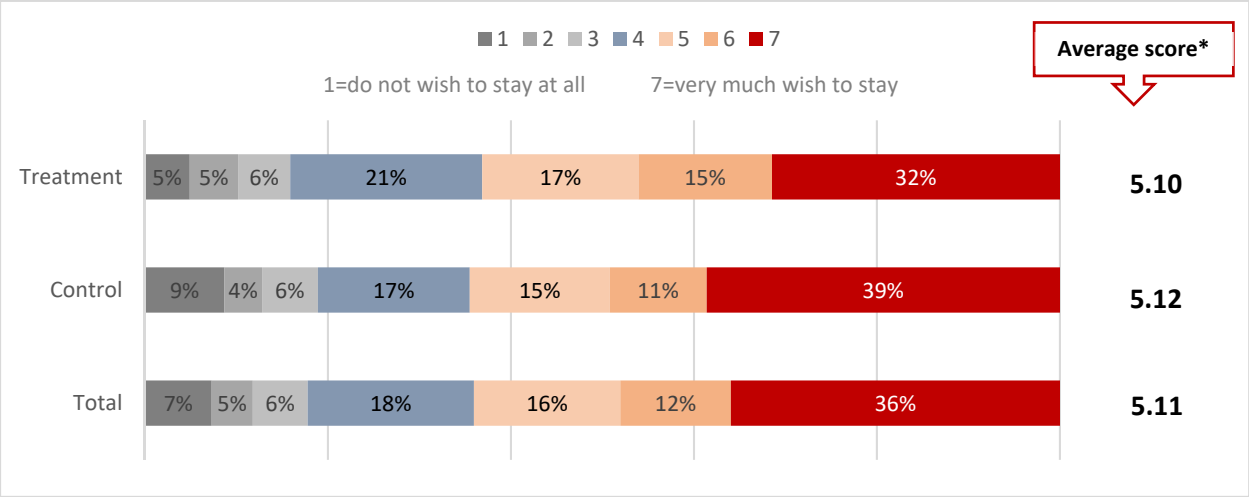
(55% and 61%, respectively). Forty-five percent of farmers in the potato VC provide high scores (5,6, and 7) while assessing their confidence in the future of potato production in the upcoming years.

**Figure 5. Views about the Future of Dairy/Meat/Potato/Honey Production (Assessment of Own Agricultural Activities)**



The study also asked the farmers currently engaged in agriculture about their **intentions to stay in or quit their current agricultural activities**. Survey respondent farmers were asked if they would like to stay in agriculture over the next two or three years. As survey results demonstrate, a larger share of farmers expressed the wish to stay in agriculture.

**Figure 6. Intentions of Farmers related to their Agricultural Activities*****

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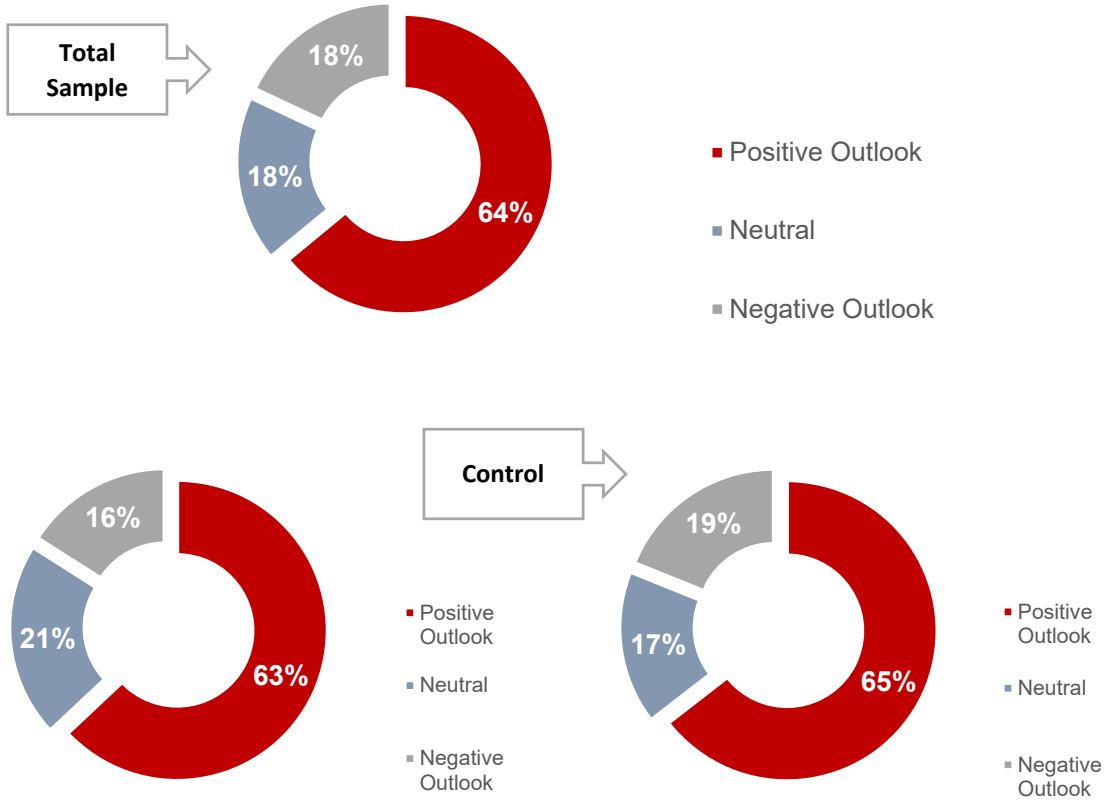
On a scale of 1 to 7, where 1 indicates no wish to stay in agriculture at all and 7 signifies a strong wish to stay, 64% of respondents indicated scores 5,6 or 7. As survey results show, some part of interviewed farmers (18%) provided a neutral assessment of their wish to stay/quit agriculture (a score of 4), whereas a smaller share of farmers (18%) are more inclined to leave the agricultural sector. A comparison of farmers from treatment and control settlements shows no major differences in the intentions of farmers to stay in or quit agriculture over the next two or three years.

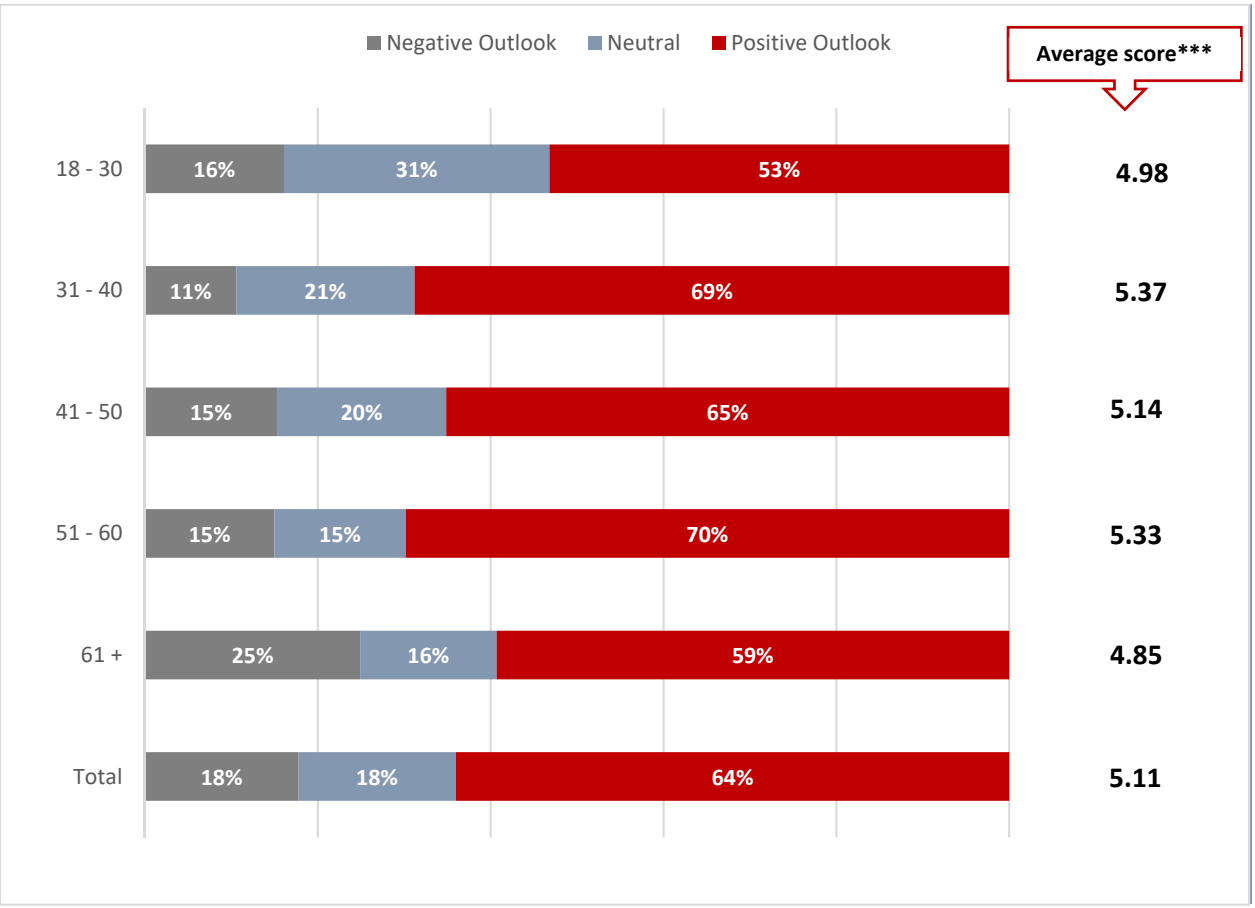
**Figure 7. Intentions of Farmers related to their Agricultural Activities[20]**




[20] An assessment was performed on a 7-point scale (1 = do not wish to stay at all, and 7 = very much wish to stay). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4, and positive outlook = 5,6,7.

Interestingly, an analysis of the intentions to stay in or quit agriculture by different age groups shows that a larger share of farmers aged 31-60 are inclined to stay in agriculture. The youngest (18-30) and oldest (61+) age groups provided low scores more frequently while assessing their intentions related to agricultural activities, however, the average score for these age groups is still high (4.98 for the age group 18-30 and 4.85 for the age group 61+).

**Figure 8. Intentions of Farmers related to their Agricultural Activities by Age Group[21]*****

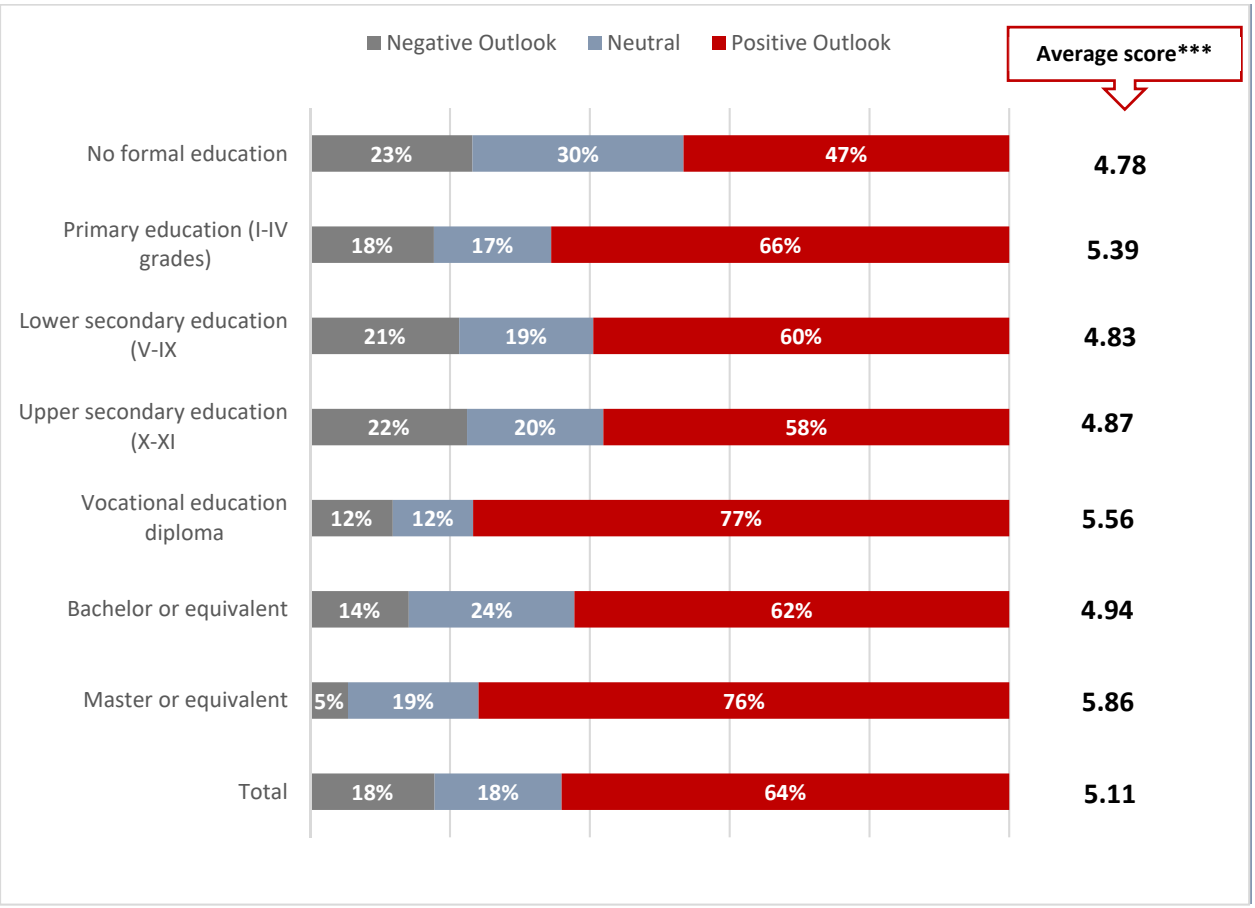



*N=1218*

[21] An assessment was performed on a 7-point scale (1 = do not wish to stay at all, and 7 = very much wish to stay). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4, and positive outlook = 5,6,7.

As for education, farmers with no education are more inclined to provide lower scores while assessing their intentions to stay in agriculture, whereas farmers with postgraduate education provide the highest average score (5.86). The average score for respondents with vocational education is also quite high (5.56).

**Figure 9. Intentions of Farmers related to their Agricultural Activities by Education[22]*****

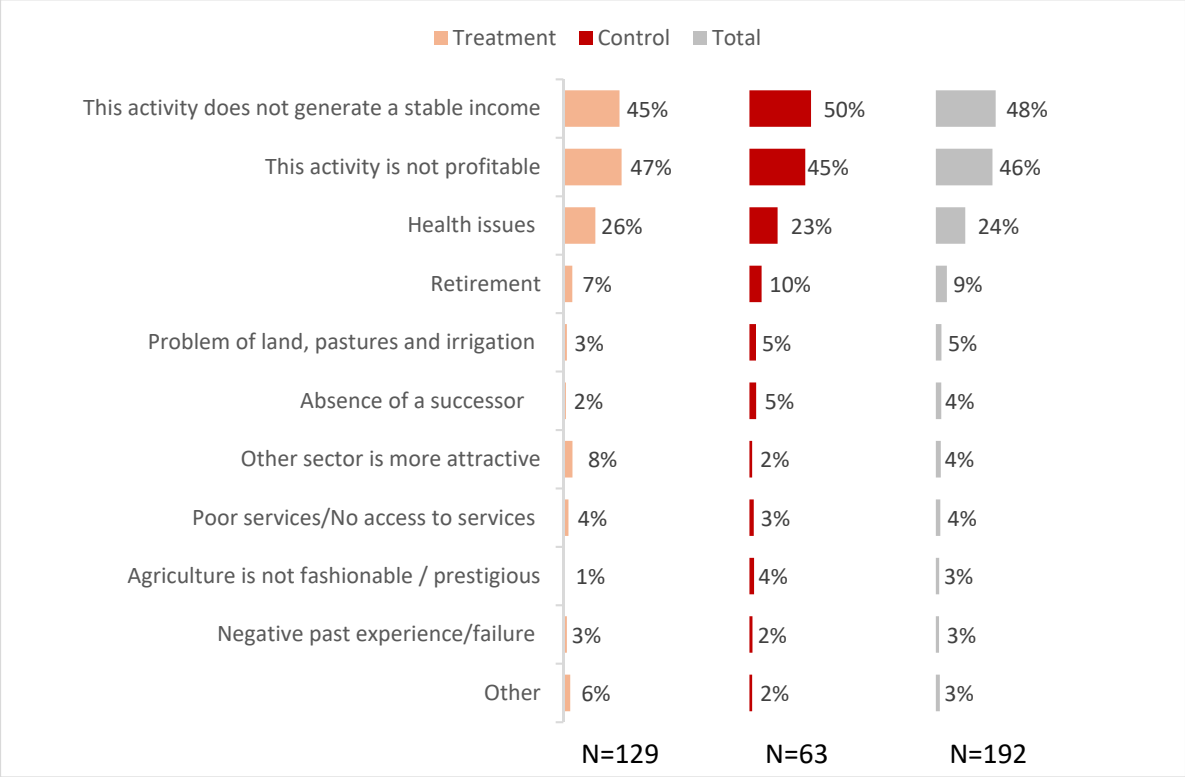



*N=1218*

Farmers who stated that they did not have a strong wish to stay in agriculture (scores 1, 2 or 3) were asked about the **reasons of their wish to quit agriculture**. A majority of respondents linked their low desire to stay in agriculture with the low financial profitability of agricultural activities. Among respondents, 48% indicated that agricultural activities do not generate a stable income, whereas 46% of farmers stated that agriculture is not a profitable activity. Issues related to financial resources are among the top named reasons in treatment and as well as control locations.

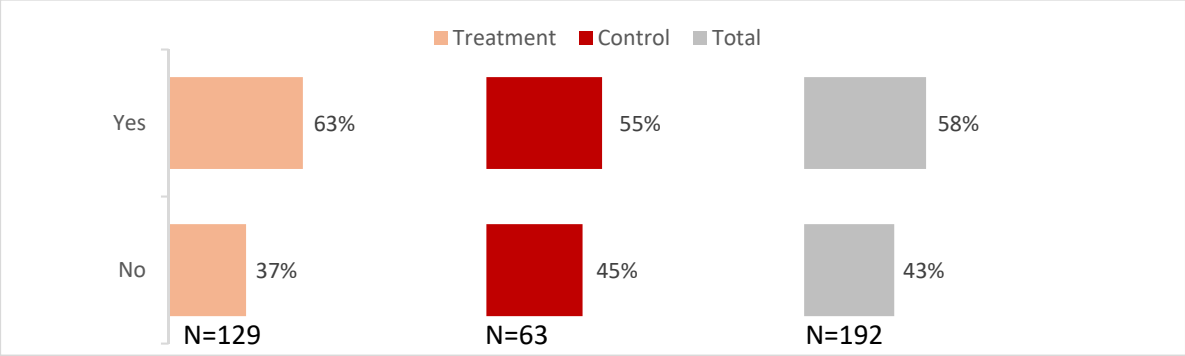
[22] An assessment was performed on a 7-point scale (1 = do not wish to stay at all, and 7 = very much wish to stay). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4, and positive outlook = 5,6,7.

**Figure 10. Reasons for Not Having a Strong Wish to Stay in Agriculture**




Survey respondents who indicated that they do not have a strong wish to stay in agriculture were asked **whether or not they wanted to work in another sector instead**. The majority of farmers stated that they wished to work in another sector (58%), whereas quite a large share of respondents stated that they do not (43%).

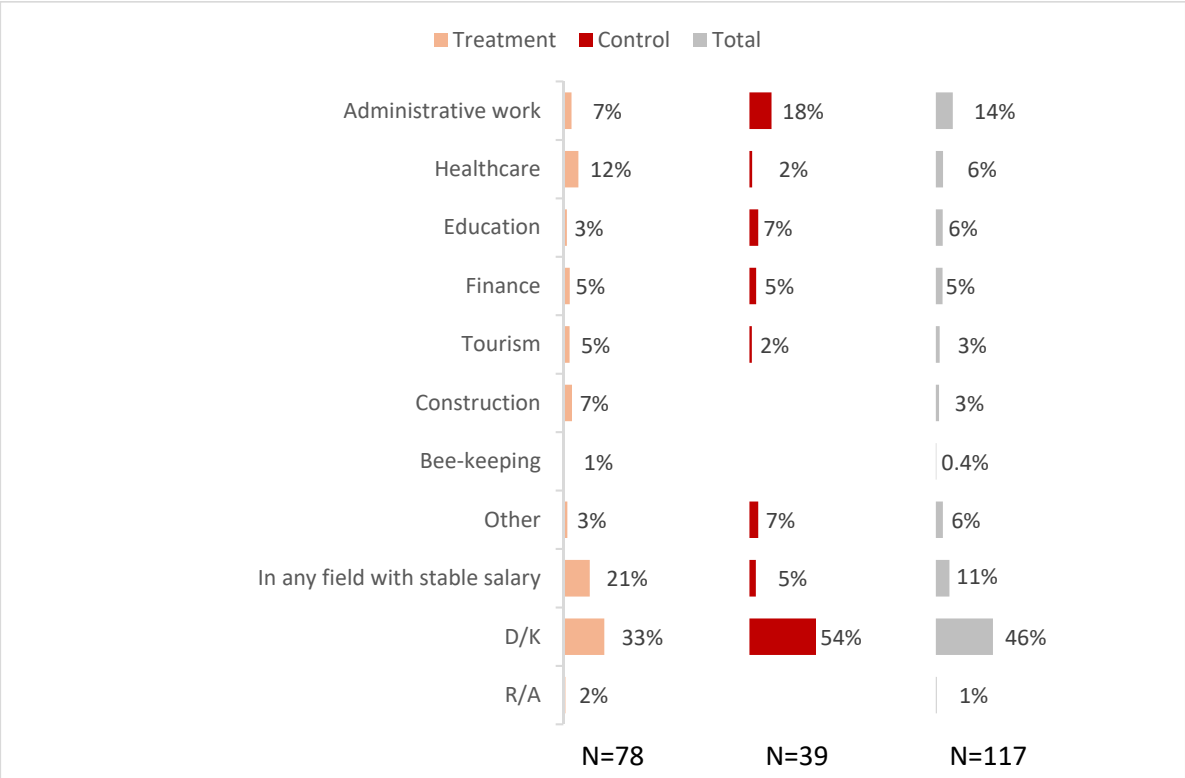
**Figure 11. Desire to Work in Another Sector Instead of Agriculture**




Survey respondents who indicated a desire to work in another sector instead of agriculture named such **desired sectors of employment** as administrative work (14%), healthcare (6%), education (6%), and finance (5%). It can be assumed that the indicated sectors are jobs that currently exist in rural areas of

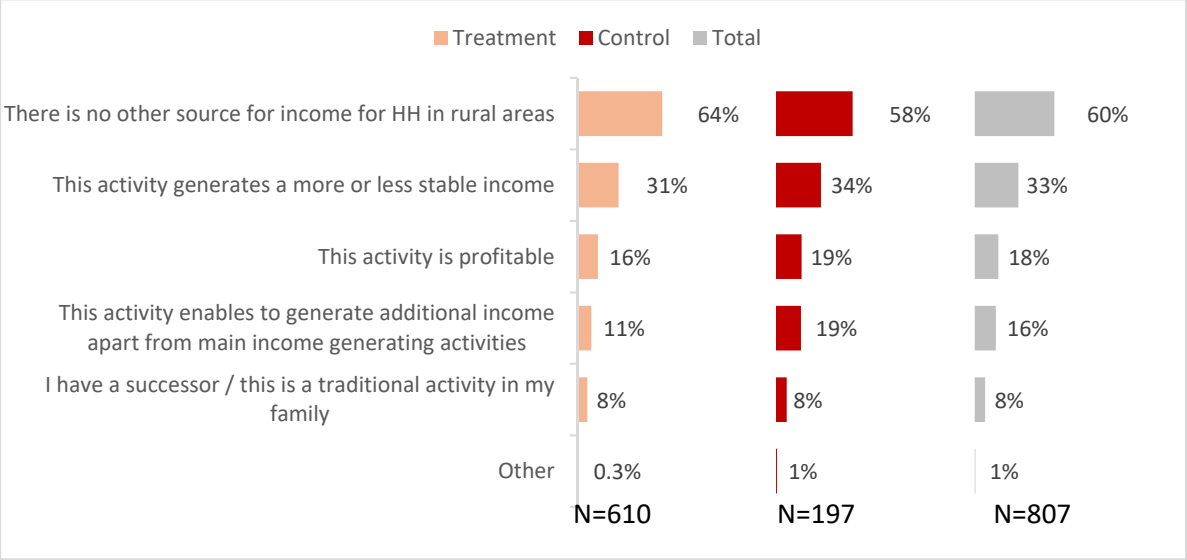
Georgia, and survey respondents derive their ideas from the existing employment opportunities around them (e.g. local government, local hospital, school or bank). As some respondents state, they just wish to work in a sector which will generate a stable salary (11%). Almost half of the respondents (46%) could not name their desired sector of employment.

**Figure 12. Desired Sector of Employment Instead of Agriculture *****



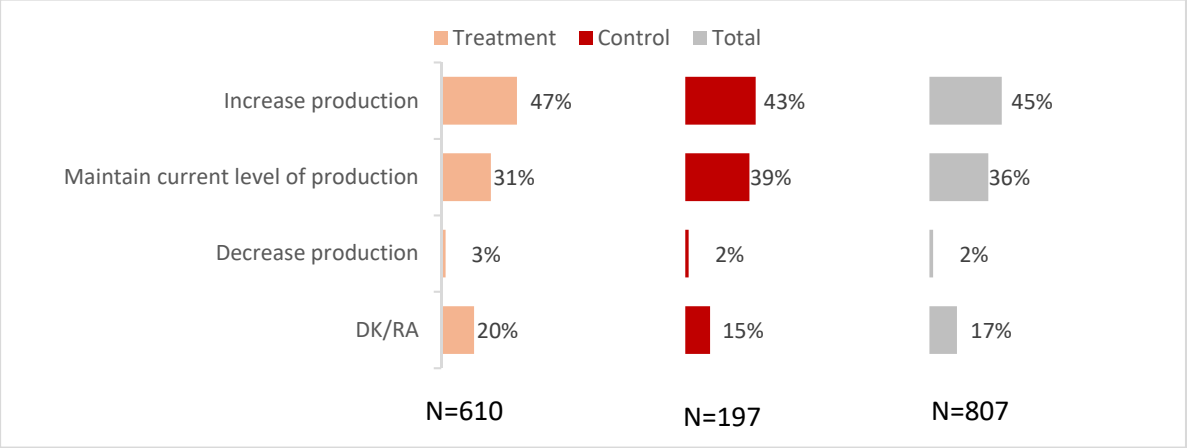

Farmers who indicated that they have a strong wish to stay in agriculture (scores 5, 6 or 7), were asked about **the reasons of their wish to stay in agriculture**. As survey results show, the majority of respondents consider agriculture as the only income source in rural areas (60%). Every third respondent thinks that pursuing agricultural activities is desirable since this activity generated a more or less stable income (33%). Another 18% of farmers link their desire to stay in agriculture with financial issues and state that agricultural activities are profitable. Some respondents named the ability to generate additional income apart from other income generating activities of the HH (16%). Interestingly, some farmers named the fact that agriculture is a traditional activity of their family, which will be continued by their successors (8%).

**Figure 13. Reasons for Having the Wish to Stay in Agriculture *****



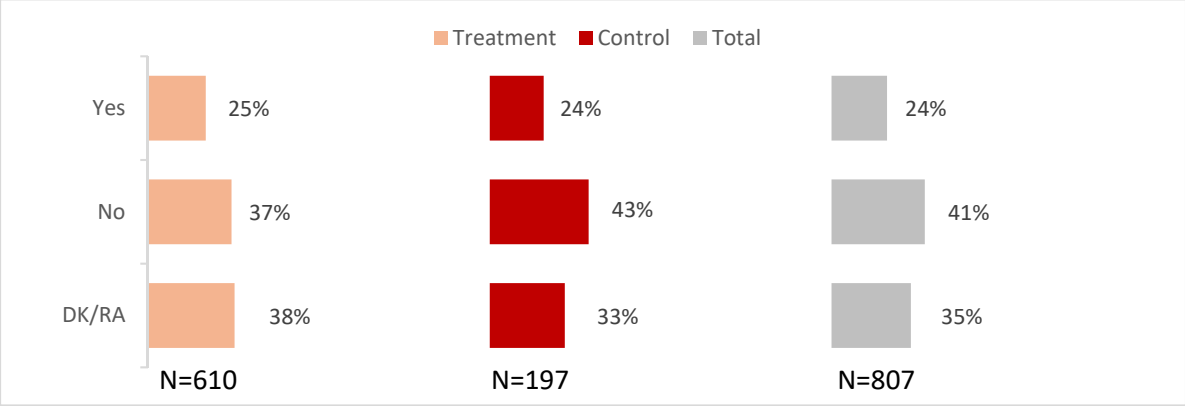

As survey results suggest, farmers who indicate the desire to stay in agriculture are quite optimistic about their future activities. Almost every second respondent (45%) indicates a desire to increase their production over the next two or three years. Thirty-six percent of farmers wish to maintain their current level of production, whereas only two percent think about decreasing their current level of production. The share of farmers who are thinking about increasing their production is higher in treatment areas (47%), than control areas (43%).

**Figure 14. Desires Linked to Level of Production**



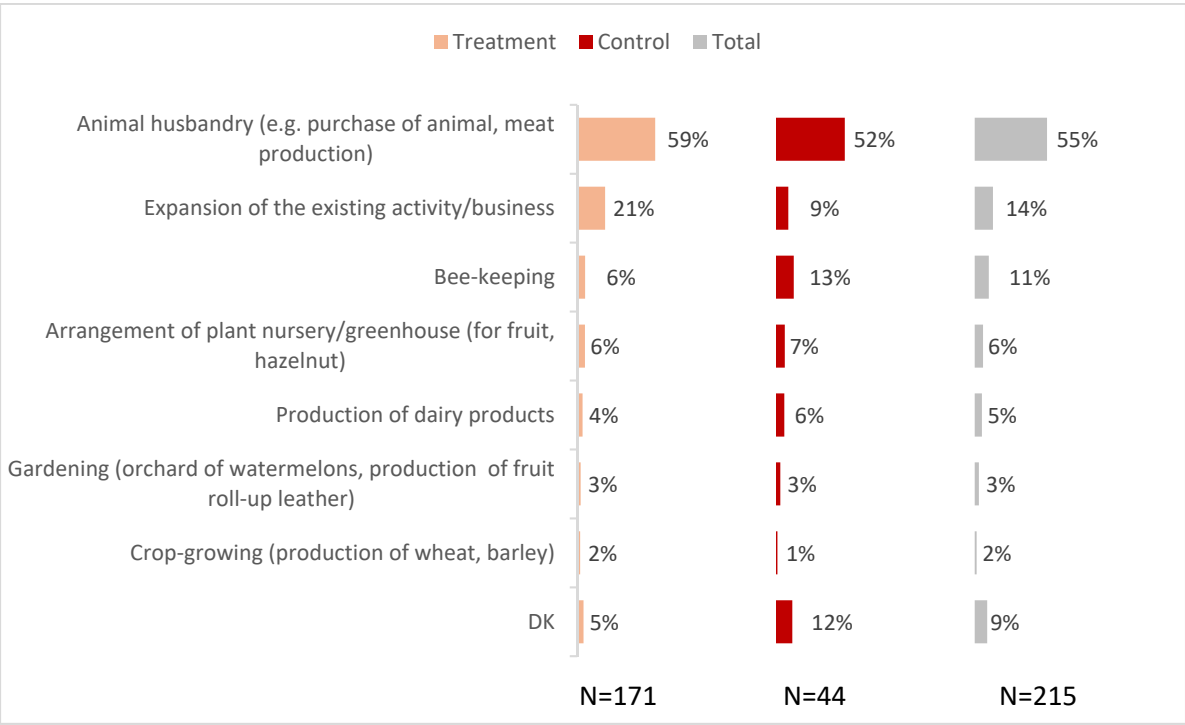

Farmers were also asked whether they would like to diversify their production over the next two or three years. According to the survey, a quarter of respondents (24%) expresses the desire to diversify their production, whereas 41% do not think about diversification. Thirty-five percent of respondents apparently have not thought about this issue, and at the time of the interview, responded that they do not know. There are no major differences evident between treatment and control areas in this regard.

**Figure 15. Desires Linked to the Diversification of Production**




The majority of farmers who expressed the wish to diversify production name animal husbandry as a desirable way of expanding their agricultural activities (55%). The share of such farming HHs is larger in the treatment area. Fourteen percent of farming HHs state that they would like to expand their current agricultural activity, and a majority of these farming HHs are from the treatment area (21%). Eleven percent of farmers indicated bee-keeping as a desirable way of diversifying their agricultural activities. Some survey respondents (5-6%) name such activities as the arrangement of a greenhouse or nursery, or the production of dairy products.

**Figure 16. Areas of Desired Diversification ****



The qualitative study provides some complementary insight into the reasons of a **desire to stay in agriculture** or **the wish to quit agricultural activities**.

Similar to the quantitative survey results, the general sentiment among FGD participants was positive in terms of staying in agriculture. Among FGD participants were those who want to expand their agricultural activities and those who would like to keep their current scale of activities or even reduce their activities. It is worth noting that none of the FGD participants expressed a firm desire to quit their agricultural activities. However, naturally, while speaking about staying in agriculture or expansion plans, farmers mention several challenges, the overcoming of which is necessary for them to fulfil their intentions.

The most prevalent reason for the wish to stay in agriculture in the quantitative survey results is the **nonexistence of other sources of income in rural areas.** This reason emerged in the FGD discussions as well. Some farmers note that in the rural areas, agriculture is the main income-generating activity. Therefore, in order to take care of their families, almost all rural residents are involved in agriculture.

Interestingly, some FGD participant farmers linked the above-mentioned reason to stay in agriculture with their knowledge and skills. Qualitative study participants note that agriculture is the field in which rural residents have knowledge and skills that can be used for income generation. It is noted that many rural residents do not have any other knowledge and skills apart from agriculture that can bring income to their families.

> *You are forced to provide your family somehow, even when you do not have any [other] means of income, so you either have to get engaged in livestock breeding or farming fields. [Samtkshe-Javakheti, female, aged 35]*
>
> *We don't really have the ability to occupy ourselves in any other field, it [engaging in the livestock breeding or farming] is our last resort. [Samtskhe-Javakheti, male, aged 56]*

FGD discussions with farmers show that agriculture is seen as a very **natural activity** for residents of rural areas. As some focus group participant farmers note, agricultural activities are and have been a **part of life for rural HHs** for a long time. The exposure of almost all members of rural families to agriculture from early childhood makes farming a very natural activity to pursue for residents of rural areas.

It is suggested that to some extent, **at least on the subsistence level**, rural HHs will always be involved in agricultural activities, despite the availability of other employment. Agricultural activities in rural areas are considered as a usual activity that can generate additional income or at least food for HH private consumption, apart from other income-generating activities HH members could be involved in.

> *Rural communities cannot exist [without agriculture]. We need a source of income to feed our children and provide for our families. I think every rural household has enough capacity to engage in farming for the said*

*purpose. I am not convinced that anyone in the countryside could sit and watch their empty land plots dry out and wither, not really. [Kakheti, female, aged 61]*

*You can't survive in the countryside unless you have livestock. You need at least one cow for milking so you don't have to buy dairy or cheese, and can get by on easier terms. [Kakheti, male, aged 23]*

Some farmers directly linked their desire to stay in agriculture with the long **tradition** of pursuing agricultural activities in their families. Interestingly, tradition as a reason to stay in agriculture was mentioned not only by older FGD participants, but also by younger farmers.

Moreover, pursuing agricultural activities has an added value for some farmers. Apart from the fact that farming HHs do not have to buy many food and drink products that they consume daily, **health benefits** is also named as an advantage of the production of agricultural products. Homemade agricultural products are considered healthier by the farming HH members, and they prefer to consume those in their HHs as well as send those to the HHs of their children or relatives living in urban areas.

*Of course, I am engaged in agriculture as generations of us, starting from my grandfather, have been farmers. Naturally, I do intend to expand [my business] further and add to my farm. [Kakheti, male, aged 19]*

*[Farming] is a tradition in our family, namely, owning livestock, producing our own organic agricultural goods as an additional source of income regardless of employment status or existing salaries. I refuse to purchase dairy and other agricultural products for my grandchildren because having my own goods means that I don't have to check or doubt its purity, in addition to having a further source of profit. [Kakheti, female, aged 29]*

In the end, it can be suggested that for many farmers, staying in agriculture is a natural thing to do, since for them it is a traditional activity. For some farmers, agriculture is the only field in which rural residents have knowledge and skills, therefore they do not see any alternative income-generating activity they might start. Moreover, farming brings them income and supports them in terms of food supplies at the subsistence level. The combination of all of these advantages makes agriculture a desirable field to work in, despite the many challenges farmers face in the process.

FGD participant farmers also spoke about their desire to **expand their current agricultural activities**. Farmers note that mitigation of the obstacles they face in their daily activities could be a great motivation for them to expand their activities.

As for the desire **to quit agricultural activities**, even though none of the farmers expressed the wish to quit their agricultural activities fully, they contemplated hypothetically about such a possibility[23]. Some

[23] Note: it is worth noting that FGD participant farmers were asked indirectly (third person techniques) about the reasons for leaving agriculture, since none of them expressed explicitly the desire to leave agriculture.

farmers noted that possible reasons for quitting agriculture might be that the farmer finds other more profitable opportunities to ensure the income of his/her HH. As mentioned above, however, in any case, it is assumed that if a farming HH will stay in the rural area (and not migrate to urban settlements), it is less likely for the farmer to quit agriculture completely.

Interestingly, while speaking about quitting agriculture, some FGD participants touched upon the perception of agriculture and emphasized it being a **less prestigious profession** compared to other activities (e.g. office work). While discussing desirable professions for their children, some FGD participant farmers noted that even though they are involved in agriculture and will continue their agricultural activities, they do not wish for their children to be engaged in this field. While explaining the reasons behind such an attitude, farmers name such reasons as farming being a challenging activity that does not generate much income as well as agriculture being less prestigious in general. In single cases, some farmers mentioned "dirty" work associated with agriculture (e.g. taking care of animals, which, in their opinion makes agriculture a less desirable field of employment, especially for youth).

> *Agricultural activities represent more of a source of survival than simply a field of interest. [Samtkshe-Javakheti, female, aged 26]*
>
> *I admit that I would not wish my children to be farmers, but having a certain amount of livestock within the household is indubitably necessary. [...] In a general sense, farming is not altogether bad, I am not trying to insult anyone, but what could be better than having a steady income and working from your own office. [Kakheti, female, aged 30]*

Closer look at a **younger age group** that participated in the FGDs shows that there are some farmers who are enthusiastic about the agricultural activities they are pursuing and have plans to expand their farms. These farmers see agricultural activities as profitable and thus, would like to expand their activities. It is noticeable that in narratives of enthusiastic farmers, phrases showing their love and dedication to agriculture often appear. Some farmers suggest that the nature of agricultural activities (hard work and existing challenges) require the farmer to be devoted and enjoy them in order to succeed. Some farmers link their dedication to agriculture with a family tradition that they would like to continue. Farmers note that they have been raised in an environment where farming and taking care of animals was the part of everyday life, so they are used to this work, enjoy it, and would like to pursue it in the future.

> *I will have sufficient grounds for beekeeping in approximately 3-5 years, I am planning to hire a beekeeper, maintain my own vineyard, and have a kiwi plantation. I have no doubt in my mind that I will own a major farming unit within the following 5 years, which will prove itself to be an extremely profitable business. [Adjara, female, aged 30]*
>
> *I have been engaged in livestock breeding since I was a child, so I have an enormous admiration for these animals. My intension is to expand my farm and own many cattle. [Kakheti, male, aged 30]*

> *My daughter currently lives and works in Turkey, and when she calls, she does not even ask how I am. She asks how the cows are first. [Kakheti, female, aged 50]*

On the other hand, there is a general sentiment that there is less enthusiasm from youth to engage with or stay in agriculture, and some younger participants of the FGDs share this sentiment. As a reason for young people not to stay in agriculture are named such factors as (1) agriculture is not profitable, (2) agriculture is associated with hard work, or (3) there is a desire to explore a different environment. Based on the qualitative inquiry, it can be suggested that such attitudes are more prevalent in mountainous villages.

> *We, the young people, are more prone to wanting to escape from rural life […] due to the prevalent conditions, opportunities are scarce here. [Adjara, male, aged 18]*

### Factors Associated with the Intention to Stay in or Quit Agriculture - Regression Analysis

A regression analysis was performed in order to explore factors that are associated with the intentions of farmers to stay in agriculture or quit their agricultural activities. Various characteristics of farmers, such as gender, age, place of residence, being in a certain VC, education, etc. were inserted into the regression model to find out whether those factors are associated with the intention to stay in agriculture or not.

As regression results indicate, there is a negative and significant effect of intellectual resources on farmers intentions to stay in or exit the agricultural sector, [i.e. farmers for whom **intellectual resources** (skills and knowledge in agriculture, access to extension services, etc.)][24] present a challenge are less likely to stay in agriculture. Farmers residing in **Adjara** are more likely to stay in agriculture, whereas residing in **Kvemo Kartli** or **Samtskhe-Javakheti** is more associated with a lower likelihood of staying in agriculture. Being in the **dairy VC** is also positively associated with the likelihood of staying in agriculture, (i.e. farmers in the dairy VC are more likely to stay in agriculture). As for the age of interviewed farmers, the **age group 30-60** is more likely to stay in agriculture. Looking at education as an independent variable shows that farmers with **VET & higher education** are more likely to stay in agriculture. Farmers who optimistically **assess at least three VCs**, when asked about the prospects of dairy, meat, potato and honey VCs in their region, are more likely to stay in agriculture. Farmers who report their **HH income being the same** during the last two or three years, or farmers who say that their **HH income** has decreased are less likely to stay in agriculture.

While working on the regression model, various variables were inserted and turned out to be non-significant (see the table below). Being male or female is not significantly associated with the likelihood of staying in or quitting agriculture, residing in treatment or control areas is also not significantly

[24] The factor intellectual resources was derived from a factor analysis. For details see p. 66

associated with the likelihood of staying in or quitting agriculture. The ethnicity of respondents as well as the sale of produced products turned out to be other non-significant variables in the presented model.

**Table 15. Regression Results[25]**

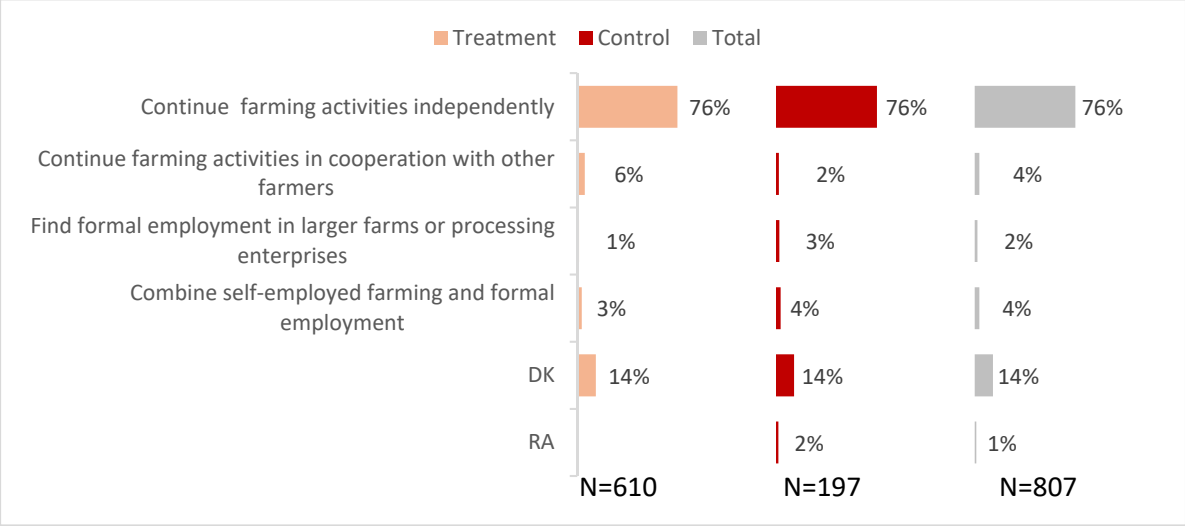
| Effect of Various Factors of Intention to Stay or Leave Agriculture | | | | |
|---|---|---|---|---|
| # | Independent Variables | Positive Significant Effect | Negative Significant Effect | No Significant Effect |
| 1 | Intellectual Resources | | - | |
| 2 | Adjara | + | | |
| 3 | Samtskhe-Javakheti | | - | |
| 4 | Kvemo Kartli | | - | |
| 5 | Dairy VC | + | | |
| 6 | Economically Active Population (30-60) | + | | |
| 7 | VET & Higher Education | + | | |
| 8 | Optimistic Assessment of at least Three VCs | + | | |
| 9 | No change of HH Income in last Two-Three Years | | - | |
| 10 | Decrease of HH Income in last Two-Three Years | | - | |
| 11 | Being in Meat or Honey VC | | | X |
| 12 | Residing in Treatment or Control Area | | | X |
| 13 | Gender of Respondent | | | X |
| 14 | Ethnicity of Respondent | | | X |
| 15 | Sale of Produced Products | | | X |

## Self-Employment, Cooperation, or Formal Employment

Survey respondent farmers were asked about their wishes related to **self-employment, cooperation with other farmers, or formal employment**. As research results show, a majority of farmers wishes to continue their agricultural activities independently (76%). The share of farmers who would like to continue their activities in cooperation with other farmers is rather low (4%). Also, a small number of farmers would like to find formal employment in another farm or enterprise (2%), or combine self-employed farming and formal employment (4%). No major differences are evident in the attitudes of farmers in treatment and control areas on this topic.

[25] For detailed regression results, see Annex #1.

**Figure 17. Desires Linked to Self-Employment, Cooperation, or Formal Employment *****




Qualitative study results provide some explanation for these study findings. Especially interesting is the small share of farmers willing to get involved in formal employment in larger farms or enterprises, especially since the common narrative among the rural population often involves complaints about the absence of factories or enterprises which could create job opportunities for the rural population.

As the qualitative inquiry revealed, some farmers consider independent agricultural activities as **more profitable** for their HHs. Some farmers note that if a farmer has the ability and resources to pursue agricultural activities on his/her own, it is the best case scenario. However, if resources are very scarce, paid employment might be a way out.

An interesting finding was revealed in the case of female farmers: while female farmers emphasize the need for opening new factories and enterprises, they do not wish to be employed full-time at such enterprises, because this will leave them **with a small amount of time for taking care of their HH chores and family members** (children, husband or parents).

While discussing the possibility of self-employment and paid employment, some farmers noted that even though they prefer independent work, in case a potential employer offers them an acceptable salary, they are willing to take a job. It can be suggested that on one hand, such intentions are linked with the low profitability of independent agricultural activities. On the other hand, such decisions are backed up with the given that in the case of paid employment, farmers still consider having their own agricultural activities, even on a smaller scale.

The farmers who prefer paid employment name a stable, regular salary as an advantage. Again, not all farmers consider giving up their farming activities, and many of them think of maintaining those at least for their own consumption.

*Having my own farm producing goods might not be profitable [...] if I only earn 100 GEL a month by producing my own dairy, while an employer offers the same amount of salary, then I'd rather work for them. It seems to me that milking cows and earning my wages would be much easier there, given the right conditions. [Adjara, female, aged 45]*

*From my perspective, working for an employer is better than owning a private production line, yet such work would provide a permanent salary, which most of us are in dire need of. [Kvemo Kartli, female, aged 41]*

A high share of farmers who are willing to continue their agricultural activities independently name low trust in potential partners as a reason. These farmers prefer to work independently and be responsible for their products in terms of the quantity as well as the quality of produced products and not to rely on other farmers. The reason for this is low trust in other farmers who might not deliver sufficient amounts, and who might have some issues with the quality of their products (e.g. deliver falsified honey or milk with added water).

Remarkably, some farmers expressed the wish to cooperate with other farmers and named various **advantages of cooperation**. Farmers who prefer to work in cooperation with other farmers mention (1) the possibility to deliver larger amounts to buyers, (2) more guaranteed delivery of fixed amounts, (3) lower costs of production, (4) the possibility of more knowledge and experience sharing, and (5) correspondingly larger profits generated from agricultural activities. Farmers willing to cooperate with other farmers state that cooperative can attract buyers with larger amounts of products as well as stable supply, which can be guaranteed by different cooperative members backing each other if something goes wrong. Cooperation is considered to reduce running costs because farmers can hire equipment together, as well as share the costs for the transportation of goods to the market if necessary. Gaining knowledge and experience from cooperative members is also named as an advantage of a cooperative.

*Combining forces by joining a cooperative network could be more beneficial as well as cost-effective, since expenditures will definitely decrease while income increases. [Adjara, female, aged 23]*

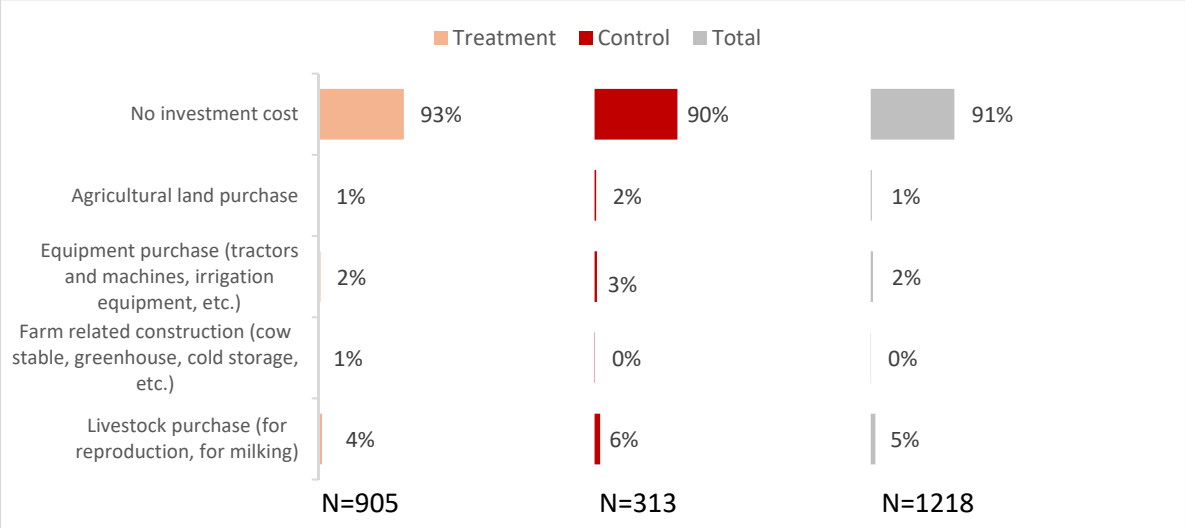
*As a smallholder apiculture entity, I am too undersized [...] for the existing market. In order to penetrate the market, you need to sign a contract with a large consumer entitie, which will guarantee that your products will be sold. With a contract, the buyer is obliged to purchase your supply of goods. [...] To reiterate further [...] I produce high-quality honey, yet I do not have more than one ton of it at any given time, meaning that no large supermarket chain would be interested in conducting business with me. This is precisely why the cooperative system is much better and more profitable. [Adjara, female, aged 30]*

### 7.1.2. Investment Experience and Intentions to Invest in the Future

Survey participant farmers were asked about their agricultural investments during the agricultural season of 2016. As survey results show, a majority of farming HHs did not make any investment in their farms (91%).

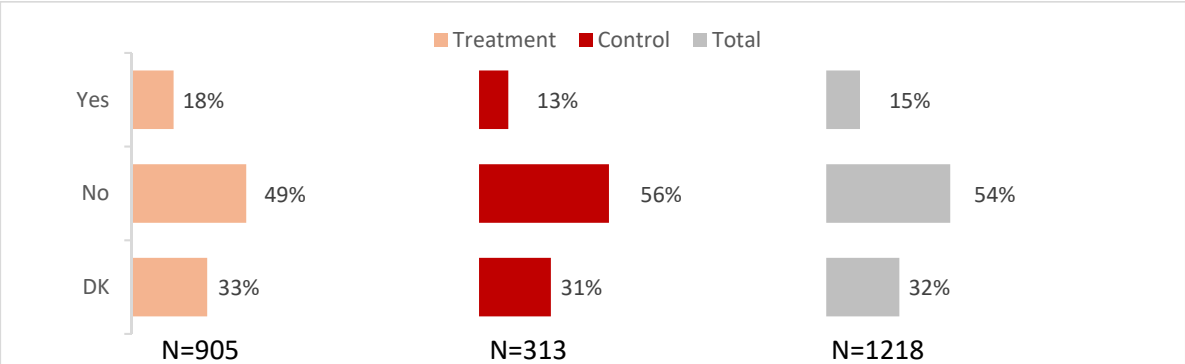
As for made investments, most farmers invested in purchasing livestock (five percent). Some purchased machinery (two percent) or agricultural land (one percent).

**Figure 18. Investment in the Farm in 2016**



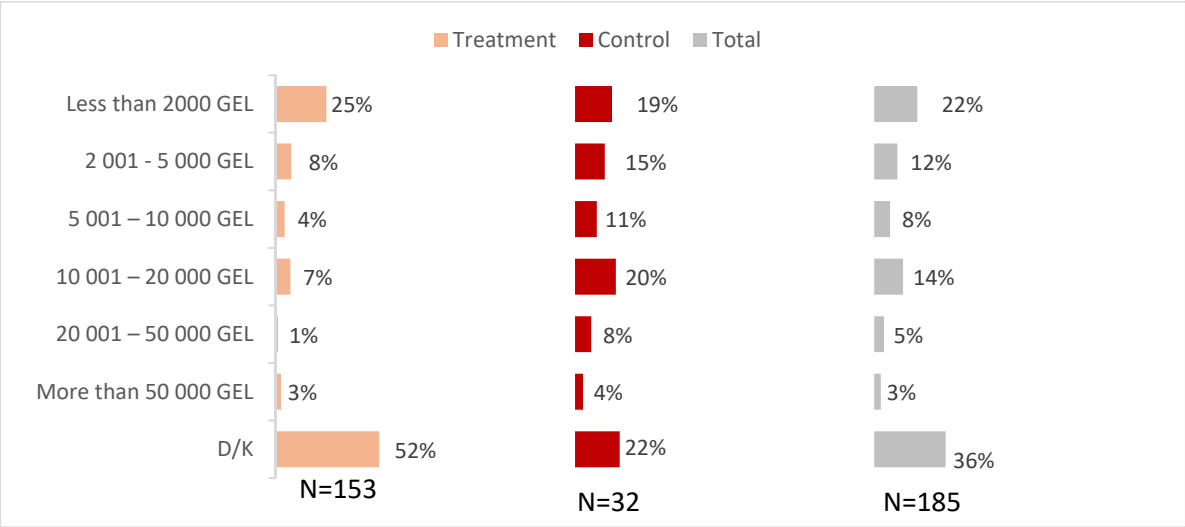

As for the intentions related to investment in farming activities, survey results show that 15% of farmers are planning to make investments in their farm, whereas more than half of the respondents (54%) do not intend to invest in the upcoming two to three years. Every third respondent is not sure about their intentions related to investment (32%). A comparison of treatment and control groups shows that a larger share of farmers in the treatment area intend to invest in their farms over the next two or three years (18%), compared to farmers in control settlements (13%).

**Figure 19. Intentions to Invest in the Next Two or Three Years*****



Among those farmers who intend to invest in the upcoming couple of years, 22% plan to invest 2,000 GEL or less. Twenty-three percent of farmers plan to invest 10,000 GEL or more in their agricultural activities.

**Figure 20. Amounts of Intended Investments*****

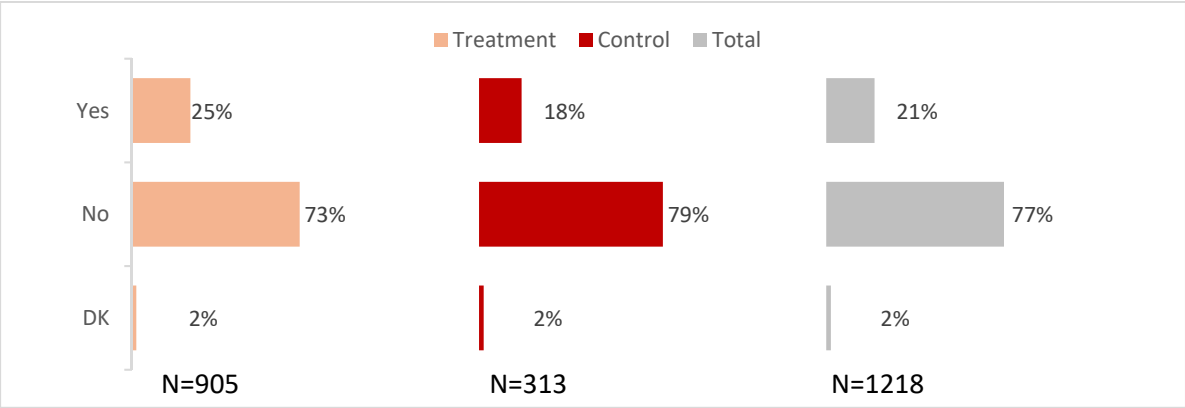



## 7.1.3. Experience Obtaining Loans and Intentions to Take Loans in the Future

Survey respondents were inquired about their experience obtaining loans during 2016. As evident from the survey, 21% of farmers have taken a loan from a bank, a micro-finance organization, a savings and credit association, or a government or donor sponsored credit program in 2016.

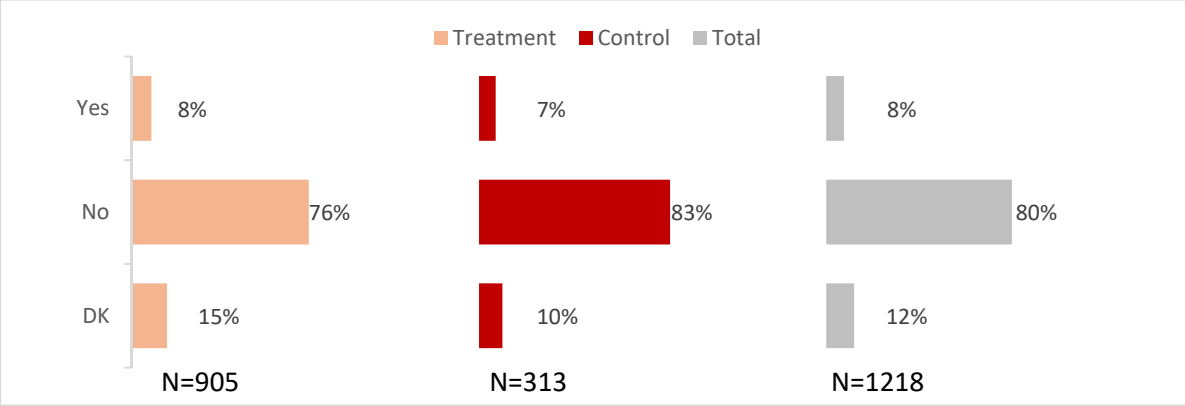
A comparison of treatment and control areas shows that the amount of respondents who took a loan in 2016 was higher in the treatment area compared to the control area (25% and 18%, respectively).

**Figure 21. Loans in 2016*****



As for intentions related to obtaining a loan, a majority of farmers do not intend to obtain a loan in 2017 (80%), whereas eight percent of farmers plan to apply for a loan to finance their agricultural activities in 2017. No substantial difference is evident in treatment and control areas.

**Figure 22. Intentions to Obtain a Loan in 2017*****




## 7.1.4. Challenges of Agricultural Activities

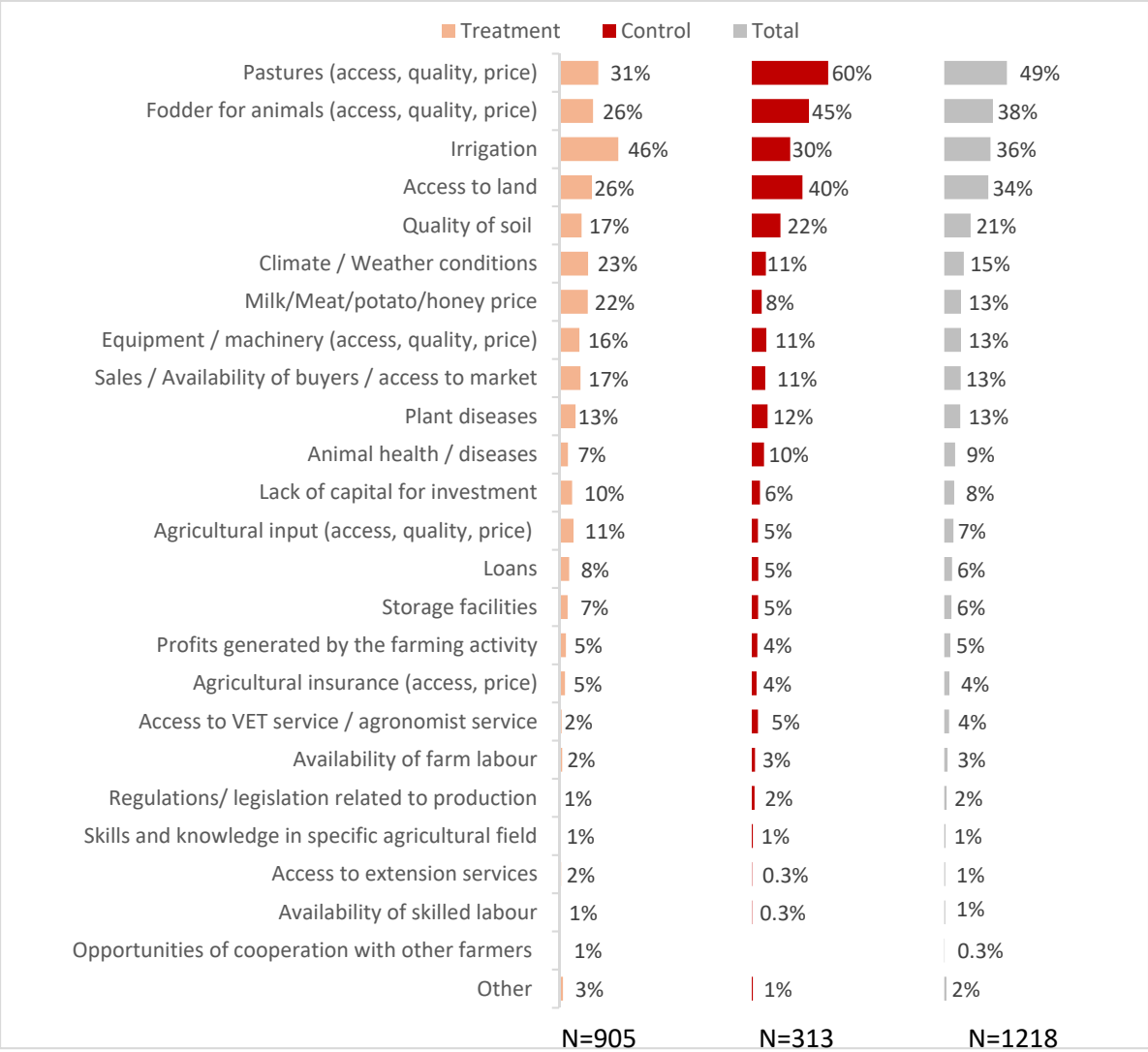
One of the topics of inquiry within the scope of the study was the **challenges related to agricultural activities** of farming HHs. Farmers were questioned about the major challenges that have impacted their farming activities, and hence might influence their intentions. Understanding these challenges can be helpful in terms of identifying factors that could hinder farmers' engagement and even cause them to quit their current activities, as well as identifying issues that could be improved to motivate them to stay in agriculture.

Survey respondents were asked about the challenges they face in their agricultural activities. Farmers assessed various challenges on a seven-point scale, where one indicated that the particular issue is not problematic and seven meant that the issue is a serious challenge for the farming HH. As survey results show, among the top seven challenges with the highest average scores are (1) lack of capital investment (5.1), (2) fodder for animals (4.8), (3) climate/weather conditions (4.8), (4) pastures (4.7), (5) product prices (4.7), (6) low profits generated by agricultural activities (4.7), and (7) irrigation (4.7). Access to VET or agronomist services (3.5) as well as skills and knowledge in agriculture (3.6) can be considered as the least problematic issues based on comparatively lower average scores.

Survey participant farmers were also asked about a problem that could be solved that would be the most important for their farm operations. As survey results show, among the top five problems, the following would be the most important for farmers: (1) pastures, (2) fodder for animals, (3) irrigation, (4) access to

land, and (5) quality of soil. As for treatment and control areas, farming HHs in treatment as well as control settlements name among the top challenges irrigation (treatment - 46%, control - 30%): pastures (treatment - 31%, control - 60%), fodder for animals (treatment - 26%, control - 45%), and access to land (treatment - 26%, control - 40%).

**Figure 23. Important Challenges/Problems *****




In order to see how farmers in different VCs experience different types of challenges, a factor analysis was performed.

With the help of a factor analysis, a long list of challenges evaluated by the farmers were grouped into six main factors: challenges associated with (1) Physical Resources (PR), (2) Intellectual Resources (IR), (3) Human Resources (HR), Diseases (D), and an Unstable Business Environment (UBE). The table below presents the extracted factors and corresponding factor loadings.

**Table 16. Challenges in Agriculture – Factor Analysis**

| Rotated Component Matrix[a] | | | | | | |
|---|---|---|---|---|---|---|
| | Component | | | | | |
| | **Physical Resources (PR)** | **Intellectual Resources (IR)** | **Financial Resources (FR)** | **Human Resources (HR)** | **Diseases** | **Unstable Business Environment (UBE)** |
| Fodder for animals (access, quality, price) | **.863** | | | | | |
| Pastures (access, quality, price) | **.850** | | | | | |
| Access to land | **.748** | | | | | |
| Equipment / machinery (access, quality, price) | **.535** | | | | | |
| Access to extension services | | **.813** | | | | |
| Skills and knowledge in specific agricultural field I work in | | **.775** | | | | |
| Access to VET service / agronomist service | | **.718** | | | | |
| Opportunities of cooperation with other farmers | | **.505** | | | | |
| Lack of capital for investment | | | **.859** | | | |
| Profits generated by the farming activity to put into investment | | | **.786** | | | |
| Agricultural insurance (access, price) | | | **.652** | | | |
| Availability of farm labour | | | | **.871** | | |
| Availability of skilled labour | | | | **.832** | | |
| Plant diseases | | | | | **.855** | |
| Animal health / diseases | | | | | **.739** | |
| Sales / Availability of buyers / access to market | | | | | | **.777** |
| Loans | | | | | | **.754** |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

An analysis of the above-mentioned six factors by different VCs shows that for farmers in the meat VC, the most challenging among the derived factors is **human resources**, followed by **intellectual resources** and an **unstable business environment**.

For farmers in the dairy VC, **physical resources**, **intellectual resources,** and **financial resources** represent major challenges.

For farmers in the potato VC, **financial resources** are the most challenging.

For farmers in the honey VC, **intellectual resources** and **diseases** are challenging.

**Table 17. Importance of Different Challenges by VCs[26] (Factor Means)**

| | Meat | |
|---|---|---|
| | Is in Some Other VC | Is In Meat VC |
| Physical Resources (PR) | .013 | -.017 |
| Intelectual Resources (IR) | -.025 | .034 |
| Financial Resources (FR) | .049 | -.067 |
| Human Resources (HR) | -.097 | .133 |
| Diseases (D) | .015 | -.020 |
| Unstable BusinessEnvironment (UBE) | -.022 | .030 |

| | Dairy | |
|---|---|---|
| | Is in Some Other VC | Is In Dairy VC |
| Physical Resources (PR) | -.188 | .048 |
| Intelectual Resources (IR) | -.109 | .028 |
| Financial Resources (FR) | -.100 | .025 |
| Human Resources (HR) | .214 | -.054 |
| Diseases (D) | .058 | -.015 |
| Unstable BusinessEnvironment (UBE) | .340 | -.086 |

| | Potato | |
|---|---|---|
| | Is in Some Other VC | Is In Potato VC |
| Physical Resources (PR) | .177 | -.356 |
| Intelectual Resources (IR) | .039 | -.079 |
| Financial Resources (FR) | -.109 | .220 |
| Human Resources (HR) | .034 | -.069 |
| Diseases (D) | .053 | -.107 |
| Unstable Business Environment (UBE) | .023 | -.046 |

| | Honey | |
|---|---|---|
| | Is in Some Other VC | Is In Honey VC |
| Physical Resources (PR) | .010 | -.686 |
| Intelectual Resources (IR) | -.005 | .353 |
| Financial Resources (FR) | .005 | -.372 |
| Human Resources (HR) | .001 | -.105 |
| Diseases (D) | -.003 | .198 |
| Unstable Business Environment (UBE) | .004 | -.287 |

[26] A factor mean score above 0 indicates that the particular challenge is problematic for farmers. A factor mean score below 0 means that the particular challenge is not problematic for farmers.

Qualitative data provides additional information on the challenges faced by farmers.

FGD participant farmers involved in the meat and dairy VCs emphasized problems related to **pastures**. As some farmers note, territories utilized as pastures are sold, and correspondingly the access to those territories is restricted. Scarce access to pastures is named as one of the major challenges in terms of the expansion of agricultural activities. Also, some farmers emphasized the availability of drinking water on pastures for animals as a problem.

> *Pastures need to be available to us in order to increase the number of cows. We are extremely restricted by limited access to pastures, as the latter is being privatized on a constant basis, so the availability of free grazing fields where cows can roam and feed themselves are limited. [Kvemo Kartli, female, aged 41]*
>
> *If the pasture-related problems are solved, I guarantee you that we shall not be idle and will double the number of our cattle. Yet if the issue remains prevalent, there is not much that we are able to do. [...] For instance, they sold our pasture field and turned it into arable land. [Kakheti, female, aged 61]*

As farmers note, the availability of fodder in local agricultural shops or markets is not a major issue, however many farmers cannot afford good quality **fodder**. Since providing nutritious fodder to animals is considered as the best way to increase productivity, a lack of it is considered to directly affect the income generated from animal husbandry. Some farmers note that providing combined fodder for animals is more profitable for them, however, not all smallholder farmers are able to afford to buy it.

> *All in all, I find purchasing of mixed fodder to be much cheaper, particularly as I was not able to produce grain this year, therefore I am forced to buy it. Consequently, I prefer to buy ready made fodder and feed it to my livestock, as opposed to spending time and energy on producing it myself. […] Yet others don't feed fodder to their cattle, asserting that it's not profitable. In my case, purchasing fodder is profitable as it allows me to raise my cows more quickly and sell them sooner. [Kakheti, male, aged 23]*

**Irrigation** is named as a major challenge by farmers involved in the potato VC. As FGD participant farmers note, a lack of water directly affects the amount of potatoes they can produce. Therefore, in order to increase productivity, improvement of the irrigation system is required. Water-related difficulties are also relevant for farmers in the meat and dairy VCs, who cannot cultivate enough fodder for animals because of problems with irrigation.

> *It [contract farming] would be beneficial if we produced 100 Liters a day. We would earn 50 GEL income a day, provided that the pastures were available for our cattle, of course. [Kakheti, female, aged 50]*

*As far as I am aware, they have been using too many pesticides for potatoes and other produce lately, while our village is not even supplied with sufficient water for watering the sown seeds. [Kvemo Kartli, male, aged 20]*

Some farmers name **price** as well as the **availability of equipment** as challenges. As some FGD participants note, they often have to wait for their turn to use the equipment, which sometimes leads to serious losses. Moreover, smallholder farmers face more difficulties in this regard, since businesses that rent equipment to farmers prefer to serve larger farms first.

*We have had massive hail for the past two years now, which have damaged and even destroyed our harvest. We were hoping for rain last year, but then it hailed heavily while we were waiting for our turn to use the farming equipment [tractors]. [Kvemo Kartli, female, aged 20]*

While discussing the challenges associated with **agricultural insurance**, farmers emphasized the high price of insurance as a problem. Some FGD participant farmers noted that having insurance is especially challenging for smallholder farmers with small amounts of land, because the harvest obtained from the small area cannot compensate for the price of agricultural insurance. Some FGD participants also noted that they do not have information about agricultural insurance.

*Farmers who own large land plots would probably be able to afford insurance, but for those of us who only own a hectare of land, obtaining insurance would cost as much as the reaped harvest. In fact, since the amount of our harvest is unstable and often insufficient, we most definitely could not afford insurance. [Kvemo Kartli, male, aged 30]*

*I have potatoes harvested over a 3,000 sq. m. land plot, yet I was unable to procure insurance since it would cost me 300 GEL. I am aware that having insurance would be better, but at that time my household was certainly unable to afford upwards of 200-300 GEL worth of insurance. [Kvemo Kartli, female, aged 37]*

As the qualitative inquiry shows, the availability of **credit** in a local bank or other credit organization is not a challenge for the farmers. However, high interest rates of loans are quite frequently mentioned by FGD participants as a problem. Similar to insurance, obtaining a loan is more problematic for smallholder farmers, since they cannot provide collateral for the loans.

*Loan interest rates are sky high. Yet it should be noted that loan procurement is extremely accessible and easy. They offer a certain amount of loans soon as they see that you own livestock or a pasture, and you can take as large a loan as you are able to afford or you consider reasonable, however as I already mentioned, interest*

*rates are quite high. Personally, I would take out a loan if their interest strategy changed and if they offered me more affordable conditions. [Kakheti, female, aged 61]*

*Banks do not tend to grant loans to smallholder farmers since they don't usually own enough cattle. They might offer them a loan, though, with a 35-40% interest rate. [Kakheti, male, aged 46]*

While speaking about **agricultural input**, apart from the high price, some farmers mention quality as a problem. FGD participant farmers involved in the honey VC noted that they have experienced some losses due to the low quality of agricultural input used. Therefore, the availability of good quality input is desired by farmers.

*We, beekeepers, are greatly damaged by agricultural input. I used some for my own 120 beehives, yet by 2013 I only had 60 left, owing to these pesticides as they poisoned my beehives. Either these agricultural inputs should be banned altogether, or they should be replaced by other, more beneficial and effective agricultural inputs. [Adjara, male, aged 45]*

Interestingly, a qualitative inquiry revealed that for some farmers, the reluctance to expand their agricultural activities is linked not only with the availability of resources, but also with **skills and knowledge** in agricultural production. As some FGD participants note, farmers are generally confident in their knowledge and abilities in agriculture and not many are aware that they might lack some knowledge. It might be suggested that a difference among different age groups exists in this regard. More senior farmers are more confident in their knowledge and skills and do not see the necessity to acquire more knowledge, whereas younger farmers are more open to new knowledge and experiences. This finding resonates with quantitative findings as well. According to the survey results, the confidence in farmers' own knowledge seems to grow with age – slightly more than half of the respondents (52%) in the age group 18-30 state that they have sufficient knowledge and skills, whereas the share of such farmers in the age group 61+ is 71%.
It is also worth noting that some farmers, despite their age, foresee the positive effect of additional knowledge and skills in their daily agricultural activities.

Some FGD participants noted that knowledge about **methods to increase crops** as well as the **application of agricultural inputs** (fertilizers, pesticides) could be helpful for them in producing a larger amount of products in an acceptable quality for the market. In the case of animal husbandry, the **methods for the production of nutritious fodder** for animals is the knowledge some farmers think would be valuable, which again is expected to positively affect the amount and quality of produced milk and meat. Being equipped with more knowledge is seen as a possibility to invest more into their farms, because farmers will be guaranteed that their production will be accepted by buyers and thus, will compensate for their running and investment costs.

*We are not aware, nor do we have sufficient knowledge of the various diseases that potato breeds might have [...] [Unfortunately,] we do not have the capacity to approach the field in which we operate in a fitting and accurate manner, which is precisely why we would like to participate in these training sessions. [Adjara, female, aged 45]*

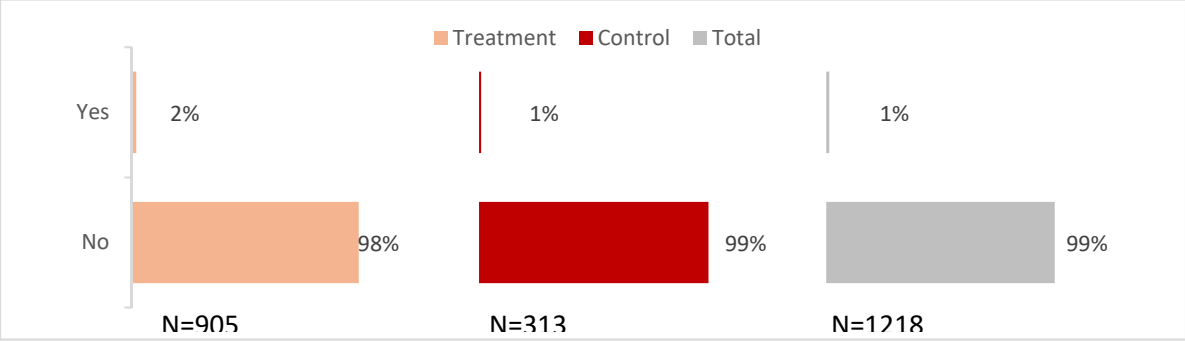
*Certain potato breeds are impossible to consume owing to a number of agricultural input that have been applied. Yet, how are we to yield an abundant harvest if we do not enrich our crops with pesticides and other toxicants, so we are practically doomed to fail at producing ample returns. Moreover, we are restricted [by food safety standards] as our products undergo laboratory inspection and are not allowed to be sold if they don't meet existing requirements, particularly if the amount of agricultural input exceeds the current specifications. [Samtskhe-Javakheti, female, aged 47]*

## 7.2. Contract Farming

One of the topics of inquiry in the scope of the study was contract farming. In particular, the experience of contract farming by the farmers who wish to engage, as well as the perceived pros and cons of contract farming.

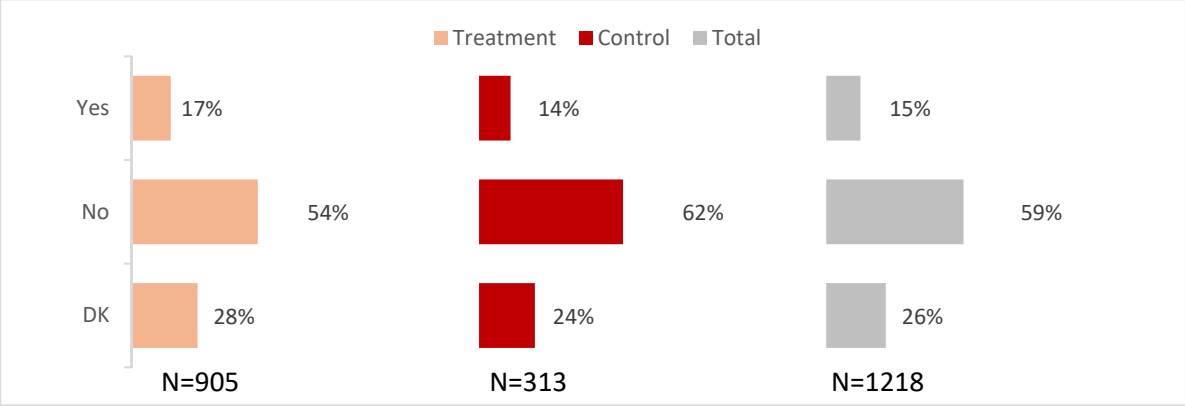
As research results show, not surprisingly, the share of farmers involved in contract farming is rather low (one percent).

**Figure 24. Involvement in Contract Farming**




As for the wish to engage in contract farming or to continue contract farming in the future, 15% of farmers indicated a positive response. The share of farmers willing to engage in contract farming is higher in the treatment area (17%) than in the control area (14%).

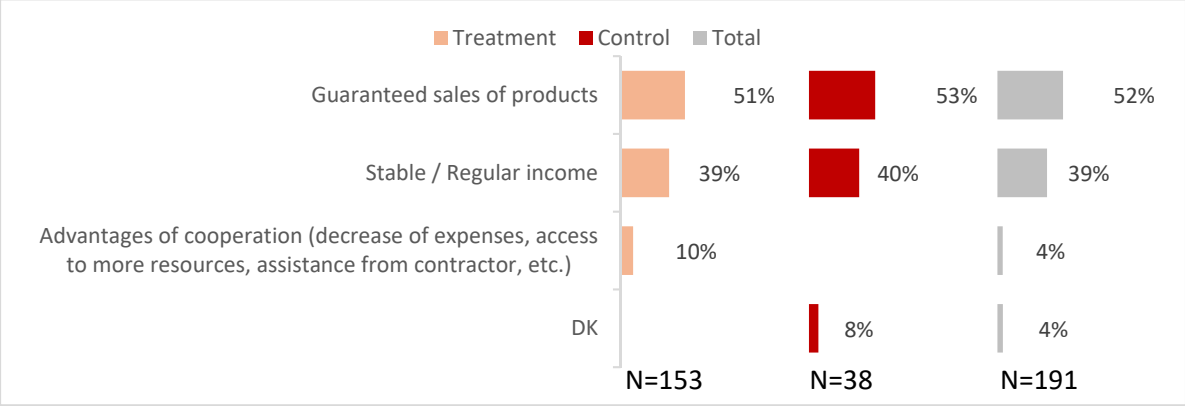
**Figure 25. Desire to get Involved/Continue Involvement in Contract Farming*****




Farmers were also asked about the reasons behind their intention to engage/continue with or not to engage/continue with contract farming.

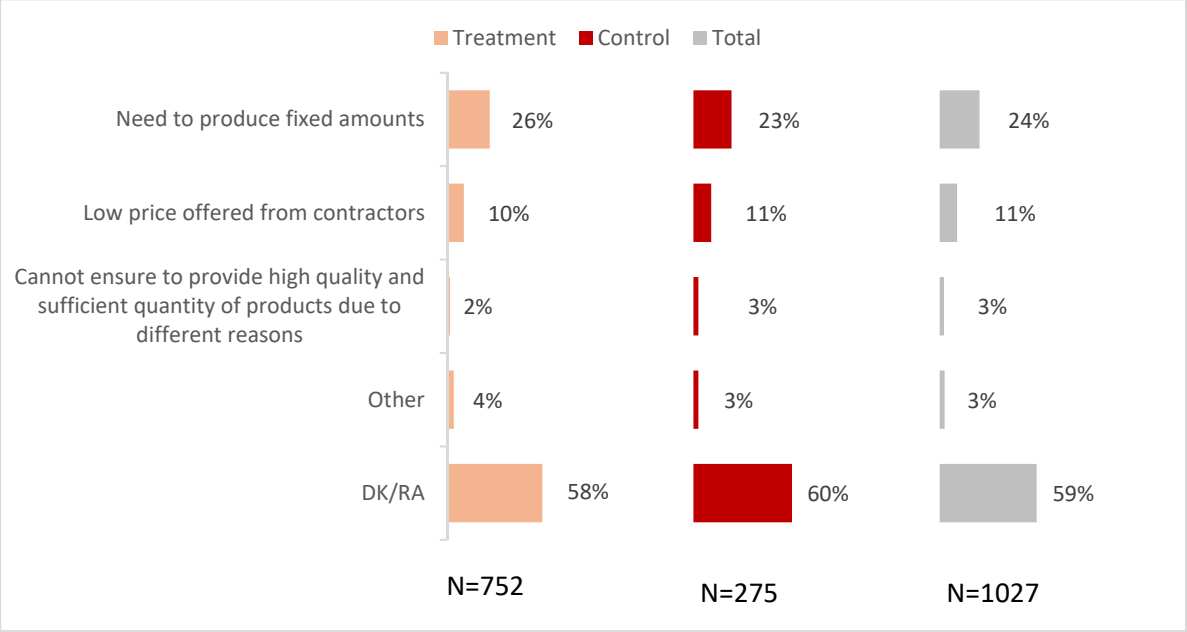
According to the survey results, the advantages of contract farming are the perceived guaranteed sales of products (52%) and the possibility to have stable income (39%).

**Figure 26. Reasons for the Desire to Get Involved in Contract Farming*****




The farmers who did not express the wish to get involved in contract farming named the need to produce a fixed amount of products (24%) and low prices of products offered by contractors (11%) as disadvantages. Interestingly, more than a half of respondents could not provide any particular reason for the absence of a desire to get involved in contract farming (59%).

**Figure 27. Reasons for the Absence of a Desire to Get Involved in Contract Farming**




Qualitative data from the focus groups provides some additional insight into the opinions of farmers regarding contract farming.

As an obvious advantage of contract farming, qualitative study participants named guaranteed sales of produced products. Having a contract is seen as an advantage in terms of **guaranteed market access**, since it saves time and resources for the farmer that would be needed when searching for a market. Moreover, contract farming represents guaranteed income for the farmer.

In general words like "safety" and "protection" often appeared in the narratives of focus group participants when talking about the advantages of contract farming. Some farmers referred to their experience of having to throw away their harvest due to difficulties related to market access and sales. Therefore, contract farming is seen as a comfortable way to sell products that protects farmers from such loses. Some farmers note that even though buyers may face some difficulties, farmers are still safe because of the existence of a contract.

> *[Contract farming] provides a sense of security; you feel insured. The longer a contract is for, the longer the guarantee that I'll have a steady income for that time period, with no hitches or delays. The contract can incorporate a particular clause regarding penalties in case the agreement is breached by the other party, which defines the type and amount of fines the damaged party is entitled to. […] having a contract guarantees a consistent salary. [Samtskhe-Javakheti, female, aged 26]*
>
> *It all depends on the contract conditions. What if the contract required me to supply a ton of potatoes that I am unable to produce; what will I have to do then? Go and buy the amount I fell short of, which isn't too convenient. That's why I mentioned that the conditions are of utmost significance. Otherwise,*

*it's really handy - you have a sense of security that someone will take your harvest, so it will no longer have to be spoiled. [Kvemo Kartli, male, aged 30]*

As farmers state, since contract farming is based on a mutual agreement between farmer and buyer, the farmer has the possibility to **negotiate acceptable conditions** and to agree to enter into the contract only in case it is profitable for him/her. Some farmers name the absence of contract farming as an obstacle to their agricultural activities. Correspondingly, having a contract is seen as a possibility to maintain agricultural activities and even increase production.

*Contact farming is great, as the supplier is assured that whatever amount of harvest is yielded will be bought out, so we try to double our yield to create double the goods. [Adjara, male, aged 44]*

*A farmer is more interested this way, you know you have a contact, therefore you have a job and a steady salary. [Adjara, male, aged 52]*

It is worth mentioning that while discussing contract farming, farmers discussed not only issues related directly to contracting practices, but also issues related to their relationships with the buyers of their agricultural products in general.

In this regard, while discussing the **disadvantages of contract farming,** several farmers mentioned the **low price of products** offered by buyers. Some farmers perceive the offered prices as unfair, since they compare those with the products (e.g. dairy) they see on the shelves at markets. The difference between the price they receive and the price of actual final products produced by the buyer leaves them with the impression that the sale price of their products is too low.

*The supply and demand system should be set up so that everyone benefits from it, both us - the farmers, and them - the contractor companies. The state should most certainly enforce a regulatory measure, because it's unfair that the other party gets to sell the cheese made from my milk for 10 or 12 GEL, yet pay me 50 Tetri for a liter of milk, which means I would have to sell 6 liters for 3 GEL, while they get over 10 GEL profit. [Kakheti, female, aged 61]*

*We have a collection point on the Machakhela, […] but I would not sign a contact with them even if they asked, because they don't pay more than 9 or 10 GEL per liter of honey, yet they yield more profit on my own product, which I labored over and got stung for [...] what have they ever done, except for sit at a computer desk?! If I observe foul play or that I am being cheated, I would never sign a contract with such a person or company. [Adjara, male, aged 44]*

In the case of **low prices**, some farmers still consider the possibility to sell to some buyers for a lower price, but they prefer to sell only part of their products - mainly excessive amounts they know they will not manage to sell independently. In such cases, farmers do not want to have a contract, because they could sell it anyway to buyers offering a low price without a contract.

*In these types of contractual relationships, the first and foremost significance is attributed to the price, [...] If the contractor comes to me asking to sell honey for 10 GEL [...] I would instantly refuse and I wouldn't even think twice about not signing a contract. If I am unable to sell my product on the market and if my financial circumstances are dire, then I might sell a portion of it to the contractor without signing a contract, as I would hope for selling it [honey] for no less than – 18-20 GEL. Much attention should be paid to the price, especially when we are dealing with such a rare commodity as natural honey. [Adjara, male, aged 45]*

As qualitative study results from conducted FGDs suggest, another cause of reservation among farmers in terms of involvement in contract farming is related to their **fear of not being able to deliver the necessary amount of products** required by the contract. For some farmers, such fear is associated with the **acceptable quality** of products as well. Some of the farmers feel that they might be unable to deliver according to the contract conditions, therefore, they prefer not to be bound by its terms, even though they realize that having a contract could be profitable in terms of their agricultural activities. Inability to provide a stable supply was named as a reason of a lack of willingness to get involved in contract farming by farmers in almost every VC.

*If I have a verbal agreement with a partner promising 100 tons of potatoes, the person will pay me for as much product as I provide, yet what happens if I am unable to produce the same amount due to a bad harvest season - how would I be able to uphold the contract requirements? [Samtskhe-Javakheti, male, aged 36]*

*At times, our milk yield is great, yet at other times it's not, which is why we are unable to sign a contact, as we can't guarantee a steady supply. [Kvemo Kartli, female, aged 61]*

Study participant farmers relate the desire to get involved in contract farming or the reservations in this regard to the **challenges of agricultural production** that they face on a daily basis. Farmers involved in meat and dairy VCs mention challenges related to pastures, which determine the amount of milk produced as well as its quality. The issue of the storage and transportation of milk is also emphasized. Farmers involved in the potato VC mention challenges related to irrigation and agricultural input necessary for the production of high-quality and sufficient amounts of potatoes, as well as issues related to storage. Farmers involved in the honey VC mention the finances necessary for the special care of bees, which ensures a high quality of produced honey. All of these obstacles are named as constraints in terms of contract farming because they are perceived by the farmers as risks in terms of the delivery of a necessary amount and necessary quality of products in the case of a contract.

*It [contract farming] would be beneficial if we produced 100 liters a day. We would earn 50 GEL income a day, provided that the pastures are available for our cattle, of course. [Kakheti, female, aged 50]*

A disadvantage of contact farming is the perceived **binding conditions**. Some farmers see contract farming as a less flexible way to sell their products, since in case of a better price offer, they will still be obliged to sell to their contractor. However, on the other hand, some farmers note that they prefer to sell to stable buyers at a slightly lower price and have a guaranteed income, rather than sell to a higher price for one time.

> *There is clearly a certain amount of risk involved in contract farming. Imagine if the agreement for a single liter of milk is 50 Tetri…you would not be able to alter or even suggest an alternate price for the duration of that contact. The prices on the market might fluctuate, which might leave me in profit, or allow a non-contractor farmer to sell their product for a higher price on the market, which leaves me in a not altogether beneficial position. [Kvemo Kartli, female, aged 35]*
>
> *As of today, a [purchaser] is willing to pay a certain price, but there is the possibility that someone will offer a higher price the following day, in which case the contract is perceived unprofitable as the farmer is interested in those customers who are willing to pay the most. [...] I prefer to turn the 5 Tetri discount down on a single occasion in favor of maintaining a partnership with a permanent customer. But not everyone tends to think in this. [Samtskhe-Javakheti, male, aged 53]*

As some FGD participants mentioned, for **farmers who have more cattle,** contract farming makes more sense, since they will not manage to sell the milk or dairy products they produce on their own. However, farmers who have five or six cows are considered to manage the realization of produced milk on their own, and therefore have no urge to get involved in contract farming. Generally, as some farmers note, farmers who are more well off are more inclined to agree to contract farming, since they have enough resources and more opportunities for getting loans, hire labour, or manage the whole production process more effectively.

> *Contact is definitely out of the question if you only own 2, 3 or even 4 cows. You need to be a proper farmer to gain profit from contact farming. [Kvemo Kartli, female, aged 37]*
>
> *This [contract farming] would be impossible for smallholder farmers, however that isn't to say for sizable farmers with perhaps 40 or 50 units of livestock. This is just impractical for us. [Kvemo Kartli, male, aged 27]*

Interestingly, while speaking about the relationship between buyers and farmers, some farmers mentioned **trust issues**. As noted, sales are currently managed without a contract, and the "contract" represents "personal relations" between farmers and buyers. In addition to that, trust is backed up with the positive past experience of cooperation between farmers and buyers, which in the opinion of some farmers excludes the need to get involved in contract farming. On the other hand, some FGD participant farmers mention existing **distrust** towards potential partners in the case of formal relationships based on contract farming. As some farmers note, they do not have a guarantee that all contract terms will be met, whereas, in case the contract is breached, the appeal process could be quite expensive and smallholder

farmers could not afford it. Therefore, some farmers see personal relations based on positive past experience as a more “safe” way of cooperation with buyers, when compared to contract farming.

> *I don't think the time is yet ripe for it [contract farming]. To be frank, it's not like we are being offered a contract on a constant basis. Our kind of contract is based mainly on personal relations. [Kvemo Kartli, male, aged 42]*
>
> *Provided you have a contract and it is breached, you have to pay 600 GEL in order to appeal. For the small farmer, it is a lot. [Kvemo Kartli, male, aged 19]*

Remarkably, some farmers consider as a solution to the problem related to the inability to provide sufficient supplies to the **cooperation** between buyers and farmers. As some farmers note, cooperation can ensure a stable supply with goods and correspondingly, a stable income for the cooperative.

> *[Farmers] are hesitant to agree to sign a contract since they are unable to provide the customer with stability in the form of a consistent product supply. For instance, as a beekeeper, I am virtually incapable of guaranteeing the provision of constant quantities of honey at all times. I might not have a sufficient harvest yield, and therefore be forced to breach the contract conditions within that same year; however, within the frame of the cooperative system I could guarantee the provision of a relatively constant supply of roughly similar quantities, give or take a few kilos, so I wouldn't have to violate contract terms, as I would have my fellow honey producer farmers to fall back on, and these peers would be able to cover my potential shortcomings. [Adjara, female, aged 25]*

Some FGD participants note the necessity to inform farmers about the advantages of contract farming and possible cooperation opportunities in order to overcome fear associated with the inability to provide a sufficient amount of products to contractors. Experience and positive examples are considered to be the best motivators for farmers to get involved in contract farming.

> *[Farmers do not aspire to engage in contract farming because] they have no relevant experience or reference points whatsoever. [...] Some farmers believe that they are necessarily obliged to venture into contract farming alone, as an individual entrepreneur, and are rightfully scared that they might not be able to provide the required supply of product. […] A vast majority of farmers, however, are unaware that they can form alliances, or collectives and work with a joint effort. We undoubtedly lack awareness of what contract farming is, […] no one seems to advocate for sharing this knowledge, while only a handful of people might be aware of how to work under these circumstances. We don't even have sufficient information to discuss, consider, or deliberate on what the more profitable conclusion might be. [Adjara, female, aged 45]*

## 7.3. Description / Characteristics of Farmers and Their Farming Households

In the scope of the survey, a total of 1218 farming HHs were interviewed. The survey respondent was the most informed household member aged 18 or above. However, some data was collected not only on individuals, but rather on the HH level. Correspondingly, information was collected on a total of 5126 HH members, among those were 2535 females and 2591 males.

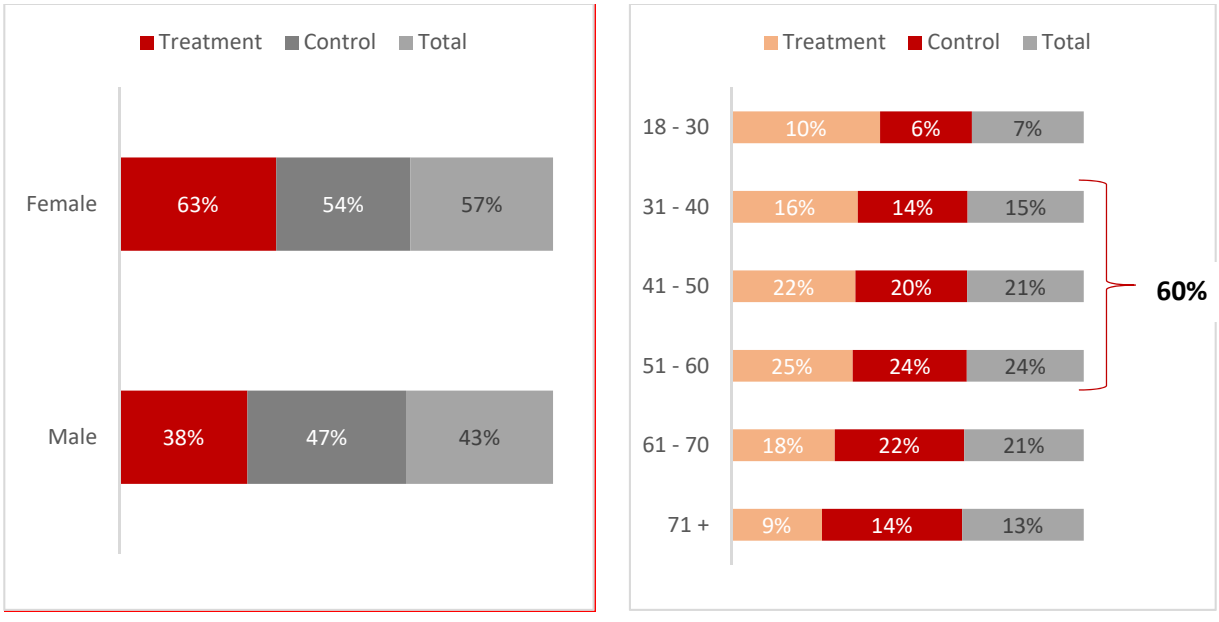
Information about the farmers and their farming HHs is reviewed below. Firstly, main HH demographics are presented, followed by a description of the agricultural activities of the farming HHs. Finally, information about attended trainings and used extension services is presented.

### 7.3.1. Demographics

Among surveyed farmers, 57% are females and 43% are males. Seven percent of farmers are aged 18-30, whereas 60% of respondents fall into the age category 31-60.

The average size of the HH is 4.07 members (4.06 in treatment and 4.08 in control settlements). The gender of the HH members is distributed rather equally (49% female, 51% male). The average age of HH members is 38-39 years for treatment as well as for control settlements.

**Figure 28. Gender and Age Distribution of Survey Respondents (gender*** / age***)**

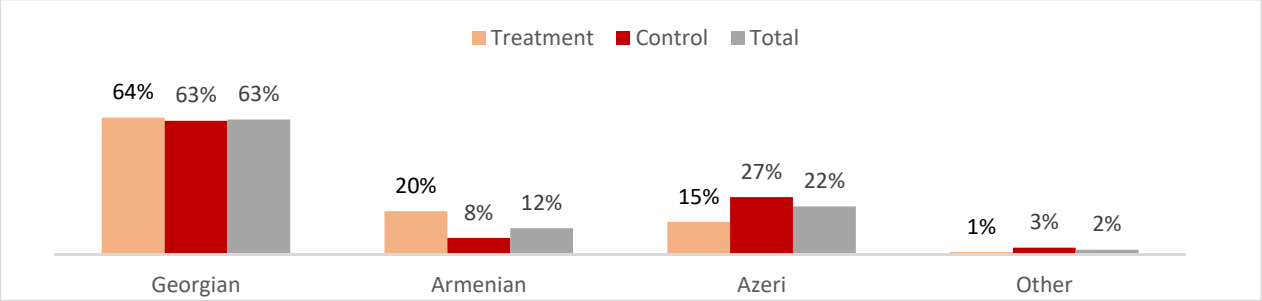



*N=1218*

The majority of survey respondents are Georgian (63%), followed by Azeri (22%) and Armenian (12%) farmers.

The majority of surveyed HHs are also Georgian (64%). However, considering the sampling specifics, the sample turned out to include a substantial number of Armenian and Azeri HHs as well (13% and 21%, respectively**).**

**Figure 29. Ethnicity of Respondents*****

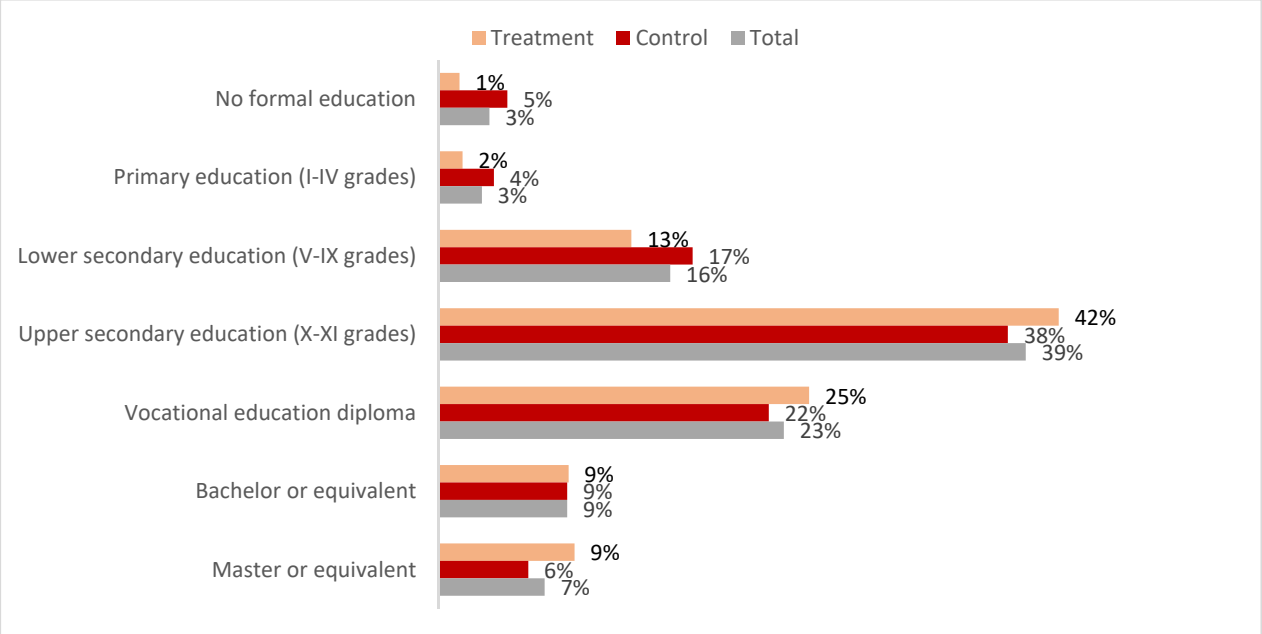



*N=1218*

The largest share of respondents has completed secondary education (39%), both in treatment (42%) and in control (38%) areas. Almost every fourth respondent farmer has vocational education (23%).

Survey results show that among HH members aged 18+, the largest share has completed secondary education (46%). Almost every fifth HH member has vocational education (19%). No substantial differences are evident between treatment and control settlements in this regard.

**Figure 30. Education of Respondents*****

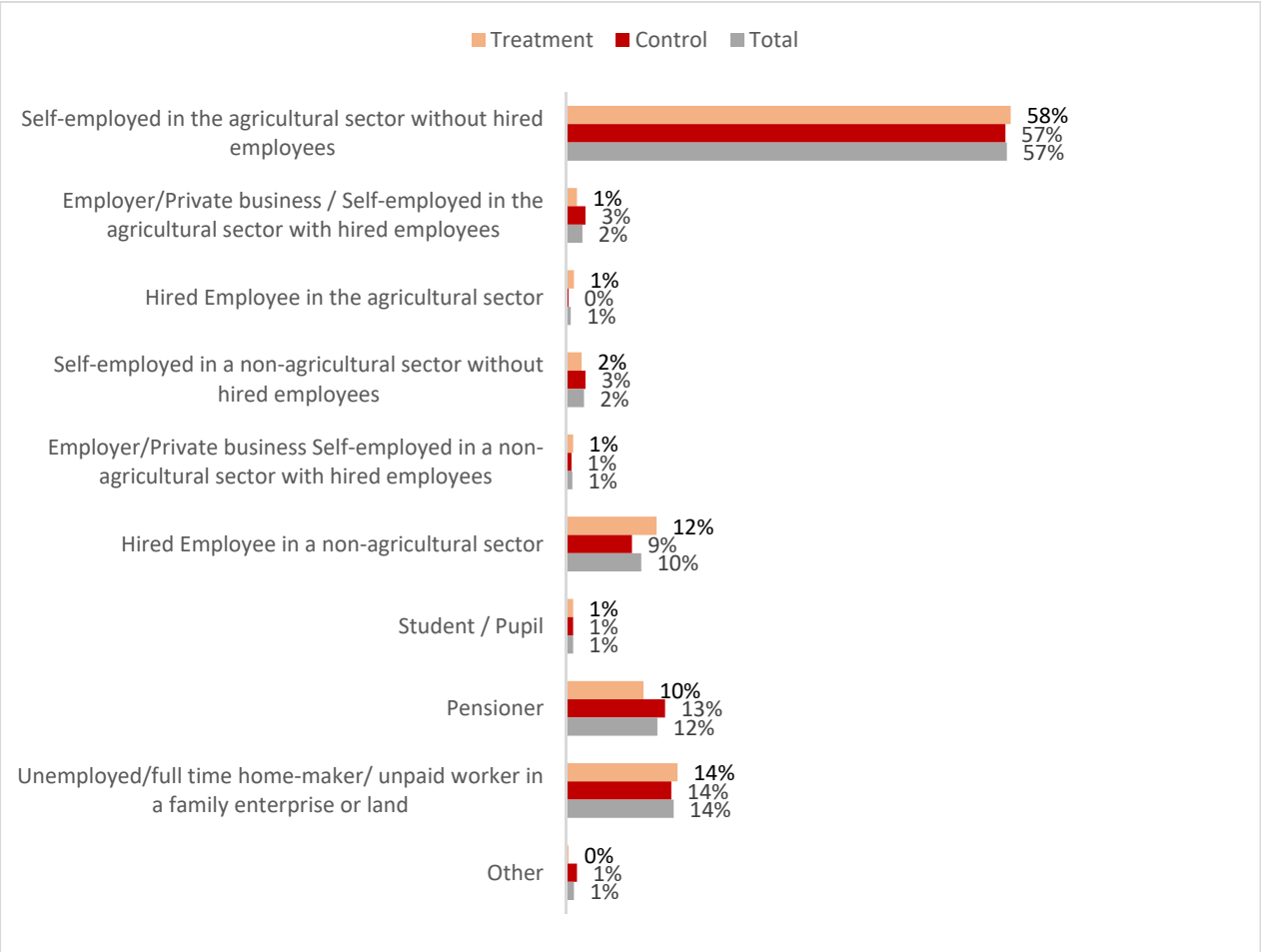



*N=1218*

The largest share of respondents is **self-employed in the agricultural sector** without hired employees (57%). The same trend is evident in treatment as well as in control settlements.

Additionally, the largest share of members of interviewed HH is **self-employed in the agricultural sector** without hired employees (36%).

**Figure 31. Primary Occupation of Respondents**

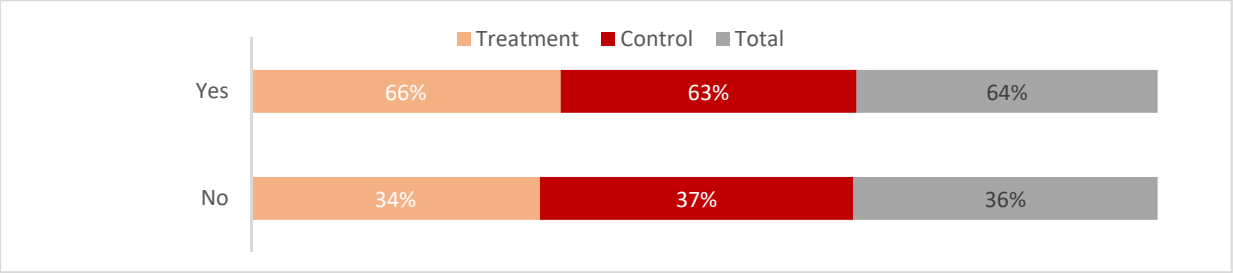



*N=1218*

## 7.3.2. Agricultural Activities of Farming Households

As survey results show, a majority of HH members are involved in agricultural activities of the HH (64%). The share of HH members involved in agricultural activities of the HH is slightly larger in treatment areas (66%), compared to control areas (63%).

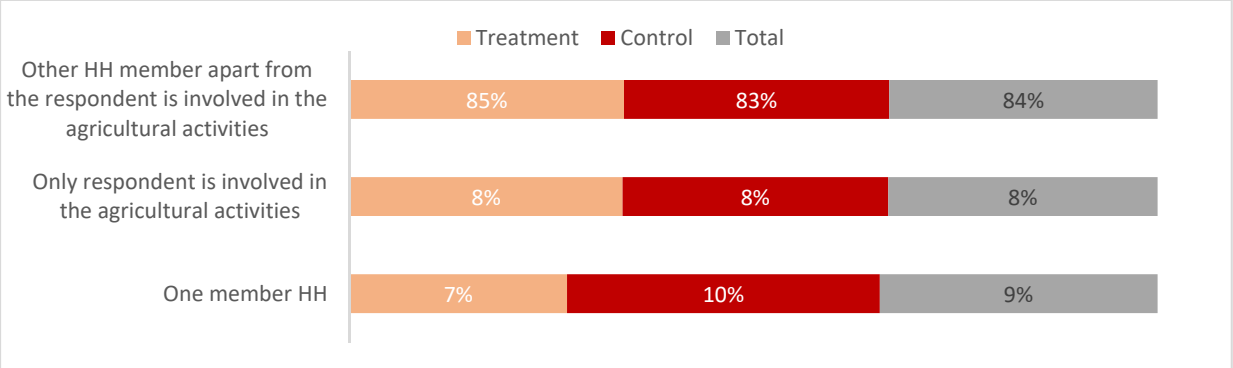
**Figure 32. Involvement of HH Members in the Agricultural Activities of the Farming HH*****




*N=5126*

A closer look at the relation of HH members and respondents of the survey shows that in a majority of farming HHs, HH members are involved in agricultural activities along with the respondent farmer (84%). Only in eight percent of HHs are family members not involved in agricultural activities along with the respondent farmer.

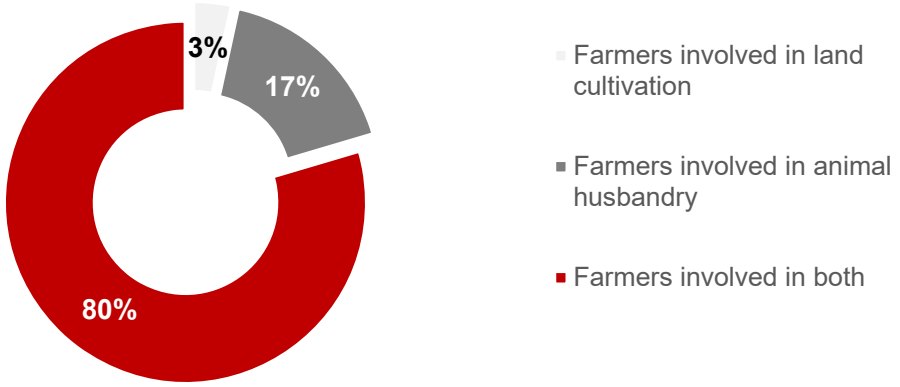
**Figure 33. Involvement of HH Members in Agricultural Activities of the Farming HH**




*N=1218*

As research results demonstrate, the vast majority of interviewed farming HHs are involved in animal husbandry as well as in crop production (80%). Among survey participant farmers, 17% are involved in animal husbandry only, whereas three percent of farmers are involved only in land cultivation.

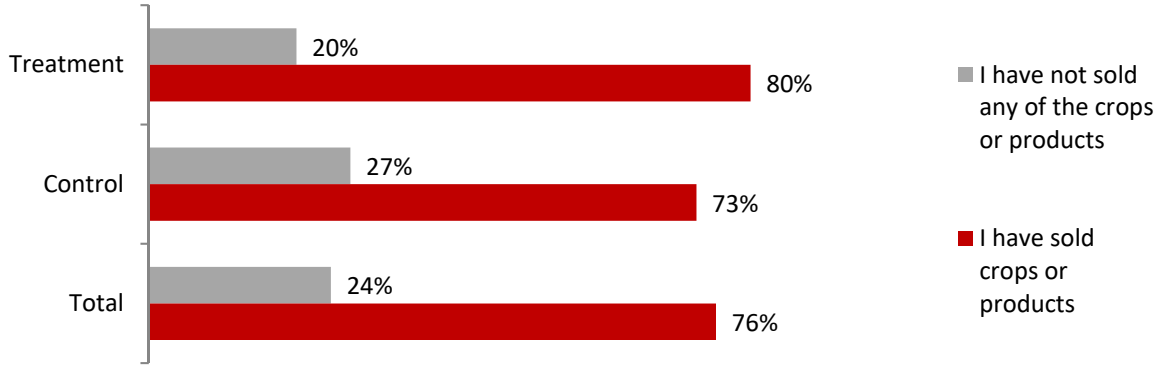
**Figure 34. Agricultural Activities of Farming Households**




Survey participant farmers were asked about the sale of agricultural products, including raw as well as processed products, that were produced in 2016.

Overall, according to the survey results, 24% of farming HHs state that they have not sold anything from the agricultural crops or products that were produced. Correspondingly, a majority of survey participant farmers sold some of their harvest or the products they have produced. The share of farmers who report sales is higher in treatment settlements (80%) than in control settlements (73%).

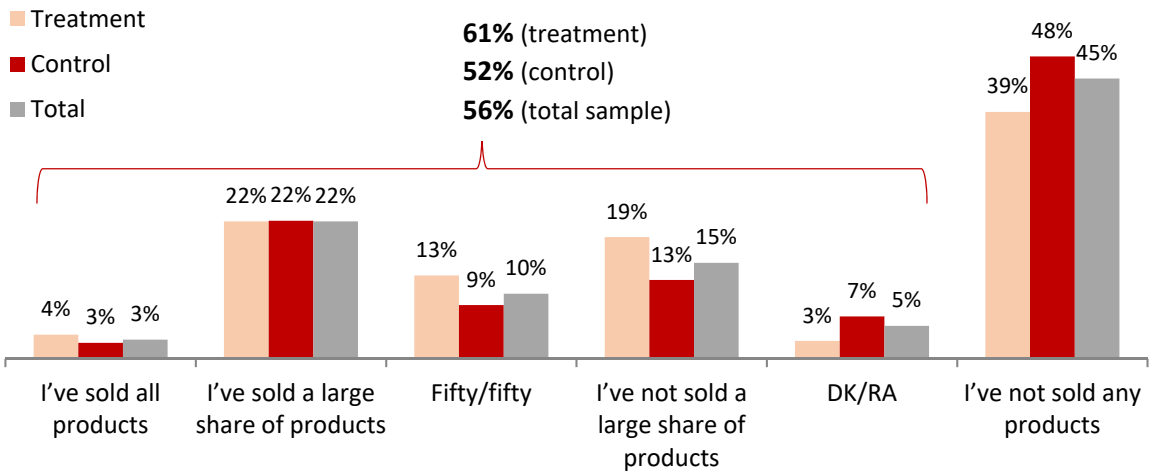
**Figure 35. Sale of Crops or Produced Products by Farming HHs*****




*N=1218*

As evident from the survey data, half of the interviewed farmers have sold some of their crops without processing. A comparison of treatment and control settlements shows that the sale of crops without processing is higher in treatment settlements. The share of farmers who state that they have not sold anything from their harvest is higher in control settlements (48%) compared to the treatment settlements (39%).

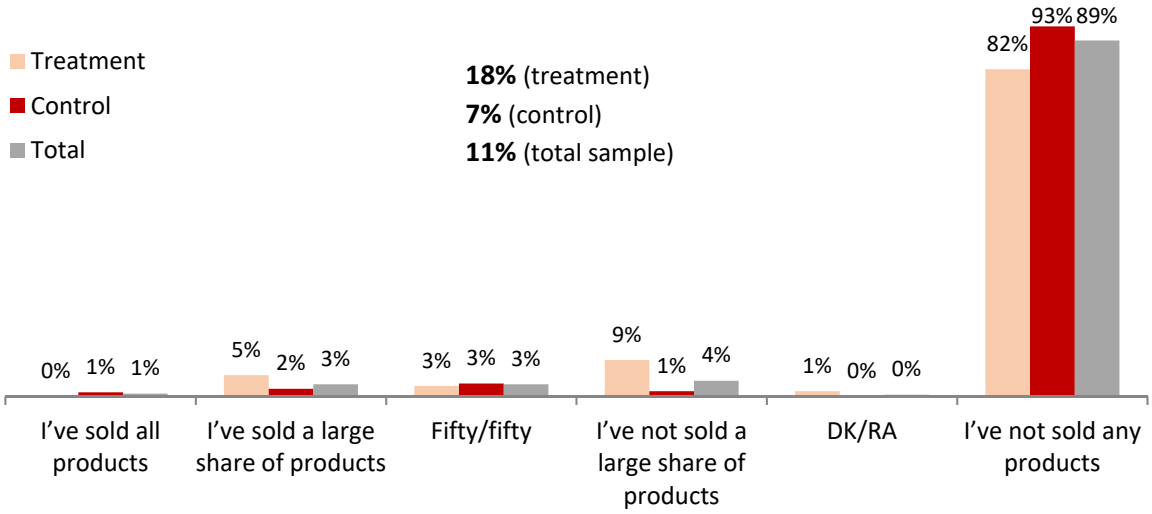
**Figure 36. Sales of Crops Without Processing*****




*N=1042*

The share of farmers who have sold processed crops (stewed fruits, sauces, pickles, canned dinners, etc.) is comparatively low. A majority of respondents state that they did not sell processed crops during 2016 (89%). The share of farmers without any sales of processed crops is higher in control settlements when compared to treatment settlements.

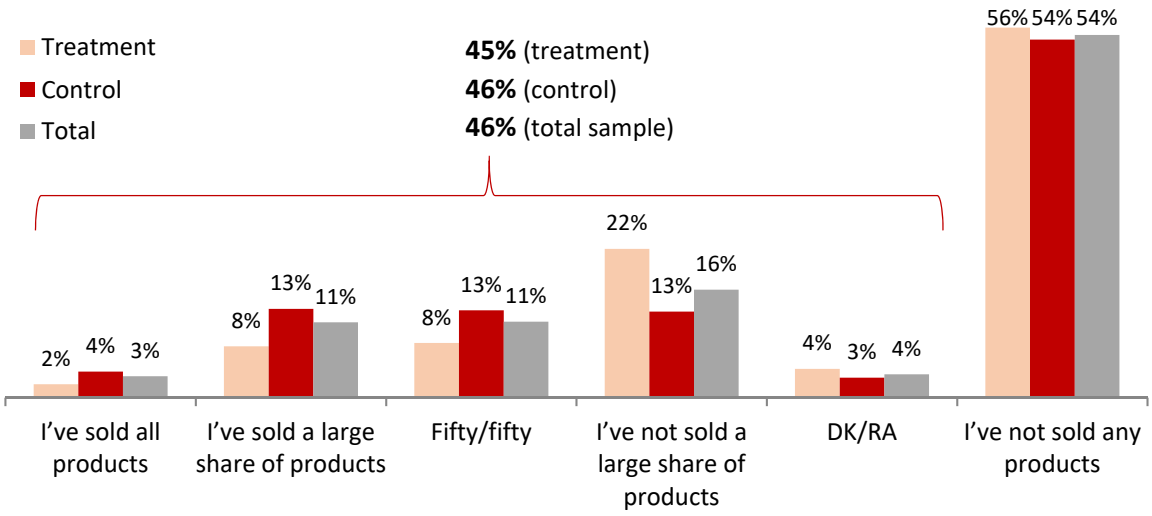
**Figure 37. Sale of Processed Crops*****




*N=518*

More than half of the farmers state that they did not sell any of the animals in their possession in 2016. However, some share of farmers (41%) state that they sold at least one of their animals. The trend is more or less similar in treatment and control settlements.

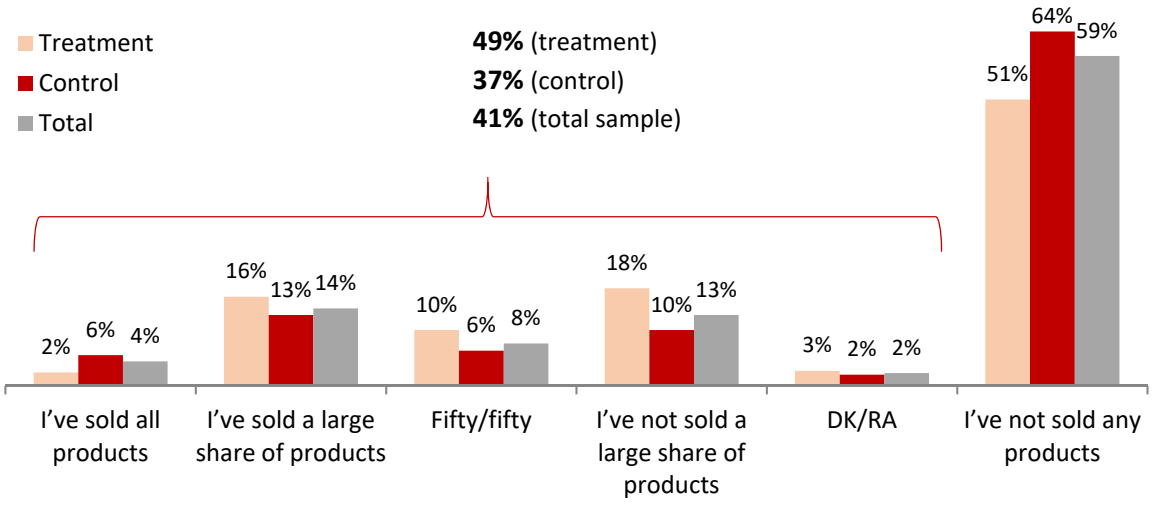
**Figure 38. Sale of Animals*****




*N=1161*

As for the sale of primary processed animal products (milk, beef, pork, eggs, honey, etc.), the share of farmers who report sales is 41%. More farmers in treatment areas state that they sold animal products in 2016 (49%), compared to farming HHs in control settlements (37%).

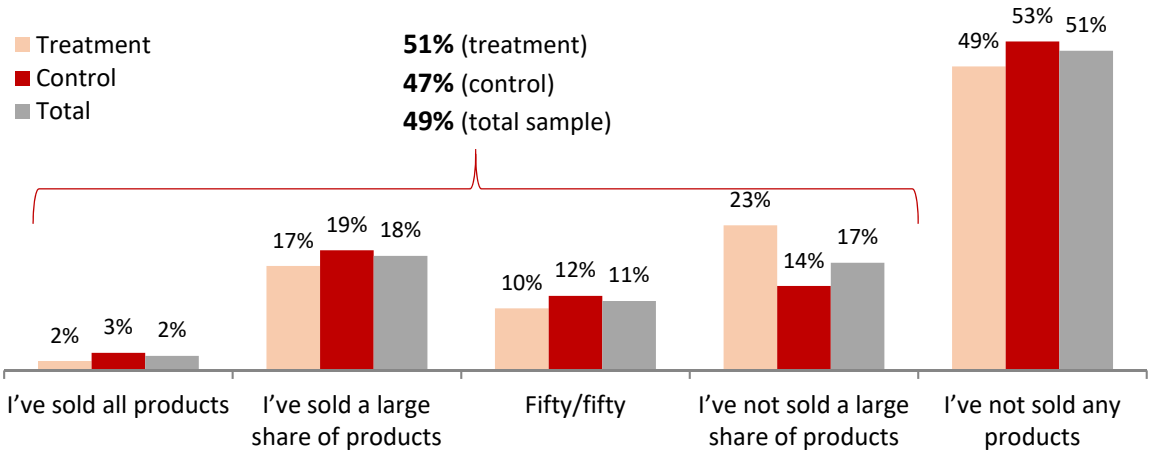
**Figure 39. Sale of Primary Processed Products*****




*N=1113*

Almost half of the interviewed farmers report selling products of secondary processing (cheese, *matsoni*, butter, pot cheese, etc.) in 2016. Again, the share of farmers who report sales is higher in treatment settlements (51%) compared to control settlements (47%).

**Figure 40. Sale of Secondary Processed Products*****

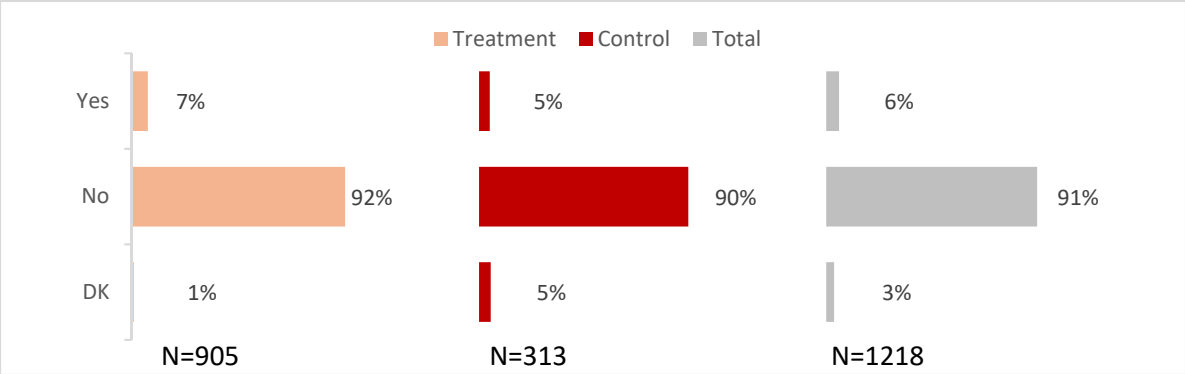



*N=890*

## 5.2.3. Attendance of Trainings and Usage of Extension Services

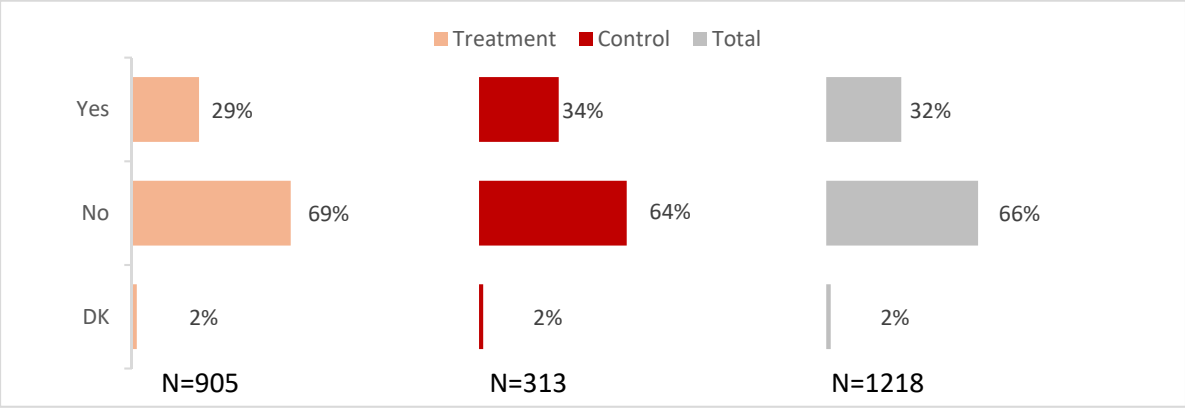
Within the scope of the study, respondents were asked about their attendance of **agriculture-related trainings** in the last four or five years. As survey results suggest, a majority of farmers have not attended any trainings (91%). Among those farmers who attended trainings, the share of farmers in treatment settlements is slightly higher (7%) compared to control settlements (5%). Among those who have attended trainings, the majority focused on crop cultivation (55%) and animal husbandry (46%). Some farmers have also attended trainings related to bee-keeping (15%) and farm management or marketing (11%).

**Figure 41. Attendance of Trainings During Last 4-5 Years *****



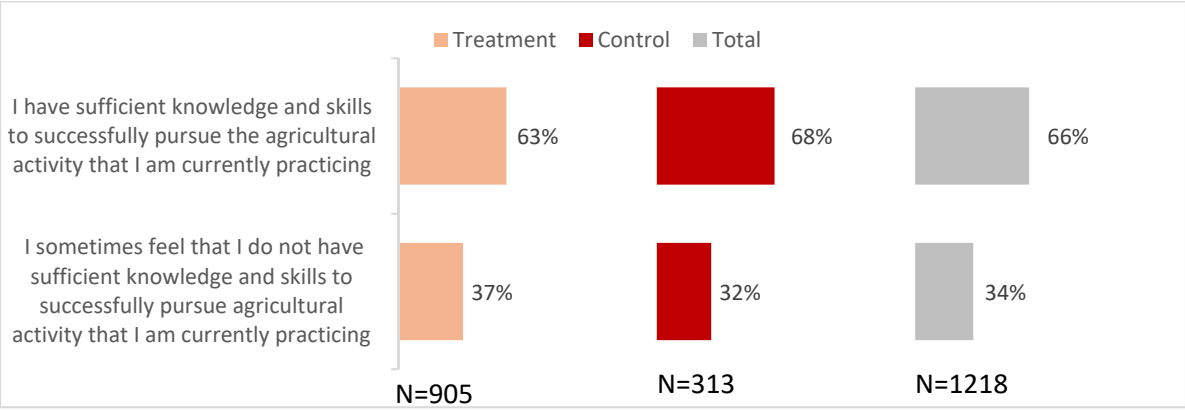
Compared to agricultural trainings, a larger share of farmers have received **extension services/consultations** during the last four or five years. Every third interviewed farmer states that s/he received extension services or consultations (32%). The share of respondents who received extension services is larger in the control area (34%), than in the treatment area (29%). The majority of farmers received extension services/consultations in animal husbandry (88%), followed by crop cultivation (28%). Ten percent of interviewed farmers have received extension services/consultations related to food safety or hygiene standards.

**Figure 42. Receiving Extension Services/Consultations During the Last 4-5 Years**




Within the scope of the survey, farmers were asked to assess how they feel about their knowledge and skills that they use in their daily agricultural activities. As survey results show, the self-assessment of knowledge and skills of farmers is quite positive. The majority of farmers (66%) state that they have sufficient knowledge and skills to successfully pursue the agricultural activities that they are currently practicing. Thirty-four percent of farmers are more modest in their self-assessment and state that sometimes they lack confidence in their knowledge and skills related to agriculture.

**Figure 43. Self-Assessment of Knowledge and Skills *****



# 8. Research Results - Value Chain Drivers Study in Georgia

The results for the VCD study are presented in five main chapters:

**(1) Outlook of VCDs** – this chapter reviews the intentions of VCDs related to their business activities. Information about confidence in agricultural activities, as well as intentions to stay or quit their business is presented.

**(2) Cooperation with Smallholder Farmers –** this chapter reviews experience as well as the future plans of VCDs associated with cooperation with smallholder farmers.

**(3) Challenges in business operations –** this chapter provides an overview of the most prominent challenges faced by VCDs.

**(4) Contract Farming** – the final chapter reviews the views and opinions of VCDs on contracting practices.

**(5) Description VCDs and their business activities** – this chapter provides an overview of VCDs, their main and additional business activities, their experience of obtaining loans, as well as investment plans for upcoming years.

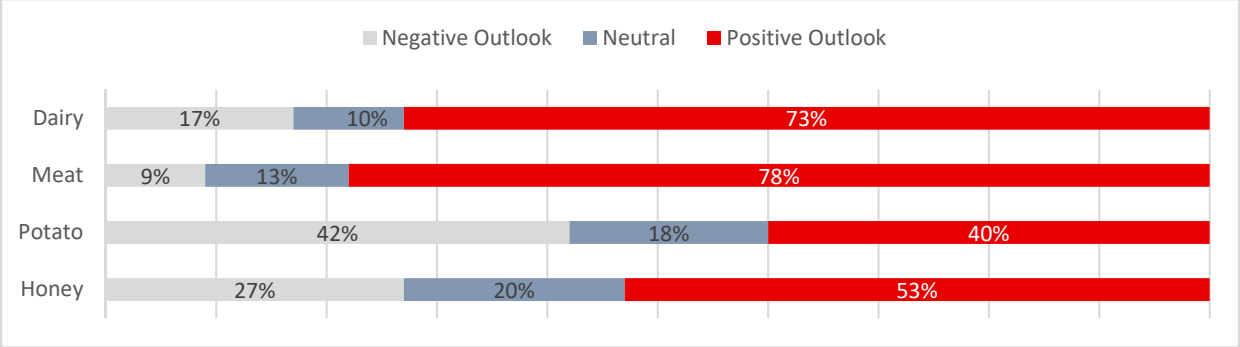
## 8.1. Outlook of Value Chain Drivers

One of the principal objectives of the conducted research was to study the perspectives and outlook of value chain drivers. VCDs were asked generally about the prospects of target VCs as well as specifically about the VCs they are involved in.

As evidenced by the research results, the attitudes of the VCDs regarding the prospects of all four value chains (despite of them being involved in a certain VC or not) within the following five-year time frame are relatively optimistic. Value chain-based variations are both striking and noteworthy.

According to the research outcomes, the most optimistic attitudes in their respective regions are exhibited within the meat and dairy VCs, while the least positive outlooks are reported within the potato farming value chain. Respondents display moderately optimistic stances towards livestock and dairy production value chains. Eight out of ten surveyed respondents exhibit a positive outlook towards the meat VC (78%), while seven out of ten surveyed respondents exhibit a positive outlook towards dairy production VC (73%). Attitudes displayed with regards to the future within the following five-year time frame in the potato farming and beekeeping value chains are less encouraging, as the positive outlooks exhibited by these VCDs in their respective regions amount to only 53% towards the beekeeping VC and 40% towards the potato farming VC.

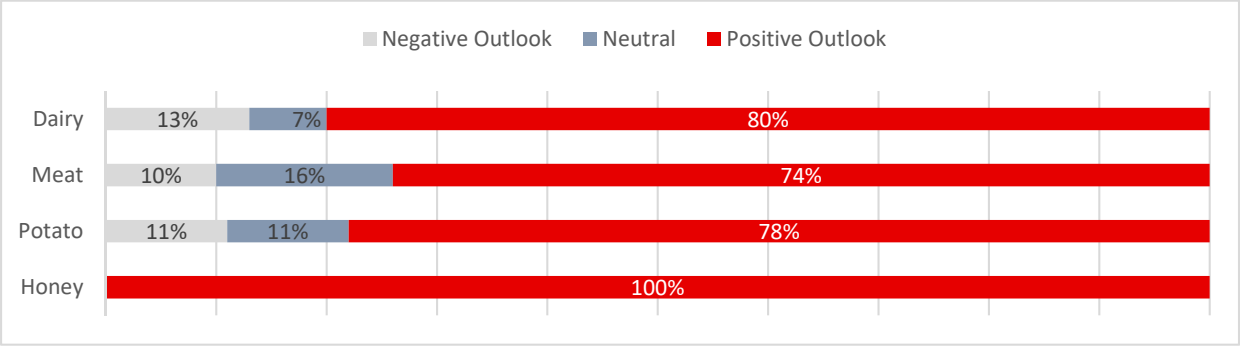
**Figure 44. Outlook on the Future of VCs[27] (General Assessment in Own Region)**




*N=89*

As for the value chain assessments in which the surveyed value chain drivers conduct their business operations, the research results revealed that the outlook with regards to the dairy production, livestock breeding, and potato farming value chains are nearly identically optimistic among the value chain drivers, as seven or eight out of ten surveyed respondents exhibit positive attitudes towards the respective field. In particular, 80% of the respondents engaged in the dairy production value chain have displayed optimistic viewpoints towards the value chain, while 74% and 78% have exhibited similar attitudes towards their respective value chains (meat and potato farming, respectively). As for the indicators in the beekeeping value chain, optimistic attitudes have been displayed by both surveyed value chain drivers within the field.

**Figure 45. Outlook on the Future of VCs (Assessment of Own Business Activities)**

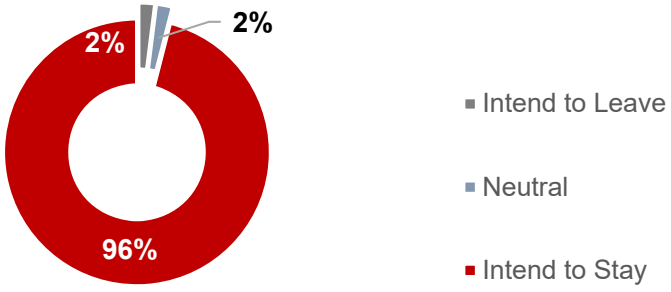



*N=89*

When probed about the probability of remaining in or withdrawing from the business in which the surveyed VCDs predominantly conduct their business operations, an absolute majority (96%) of the respondents expressed their intention to remain in the same business for the following two or three years.

[27] Assessment was performed on a 7-point scale (1 = very negative and 7 = very positive). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

**Figure 46. Intention to Remain in/Leave Current Business Activity[28]**



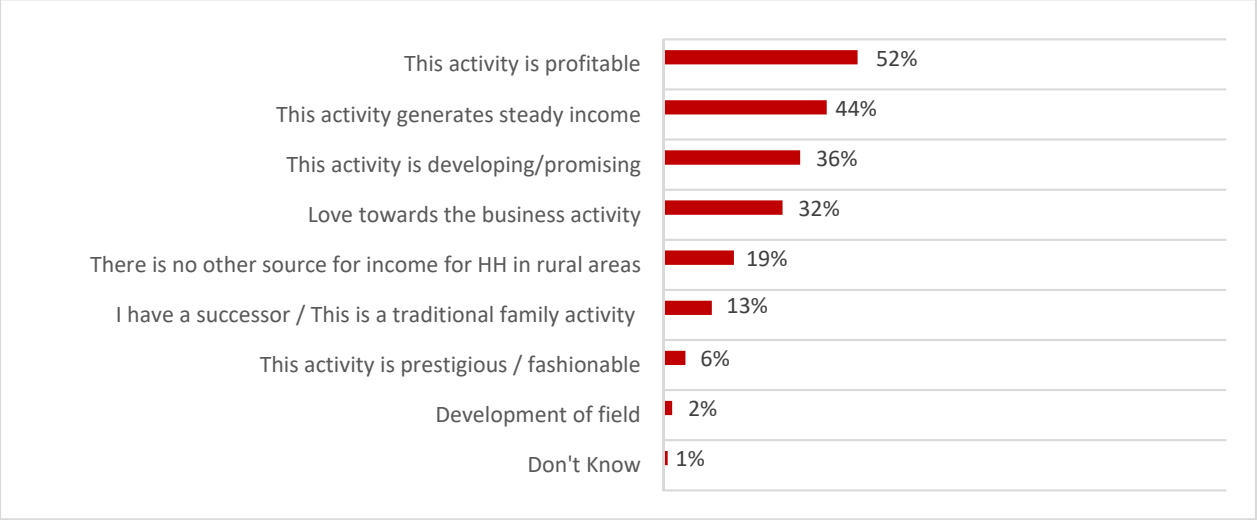

*N=89*

VCDs inclined towards withdrawing from the VC in which they currently operate argue that the unprofitability of the business activity along with unsustainable income represent the primary reasons for the above-mentioned intention. It should also be noted that one of the surveyed respondents is already determined to shift their business focus from agricultural to another sector (namely tourism), while another respondent is yet to be decided on the subject.

Value chain driver respondents inclined towards remaining within the VC in which they currently operate for the subsequent two or three years argue that the profitability of their business activity (52%) along with a sustainable income (44%), the prospect of development/expansion (36%), and love for the business activity represent the primary reasons for their future plans (32%). When probed for the principal determinant for remaining in the current line of business activity, the surveyed VCDs indicated two main reasons, namely the profitability of the business activity (27%) and the prospect of development/expansion (26%).

[28] Assessment was performed on a 7-point scale (1 = do not intend to stay at all and 7 = very much intend to stay). In this figure, the scale is recoded as follows: intend to leave = 1,2,3, neutral = 4 and intend to stay = 5,6,7.

**Figure 47. VCDs' Reasons for Remaining in the Business**

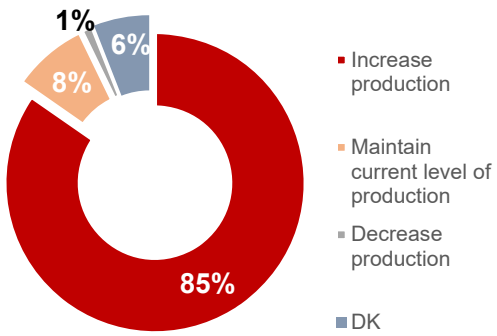



*N=85*

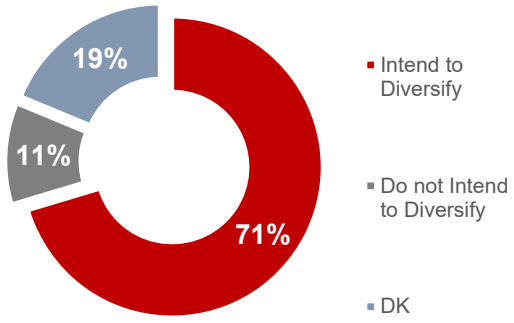
The research results revealed that a vast majority of surveyed VCDs (85%) not only intend to maintain their current business activity for the following two or three years, but also to aim at **expanding their existing business and increasing production**. According to survey results, eight percent of the surveyed respondents intend to maintain their current level of production, one VCD thinks about reducing production, while six percent of VCDs are uncertain of whether to increase, reduce, or maintain their current business assets and level of production.

It is noteworthy that a majority of the surveyed value chain drivers not only intends to expand their business activity for the following two or three years, but also aim to **diversify** it (71%). Nineteen percent of the surveyed value chain drivers are thus far undecided with regards to the above-mentioned variable ("I don't know" response), while 11% of the respondents have no immediate plans for diversifying their business activities in the nearest future.

**Figure 48. VCDs' Intentions to Expand & Diversify their Business**



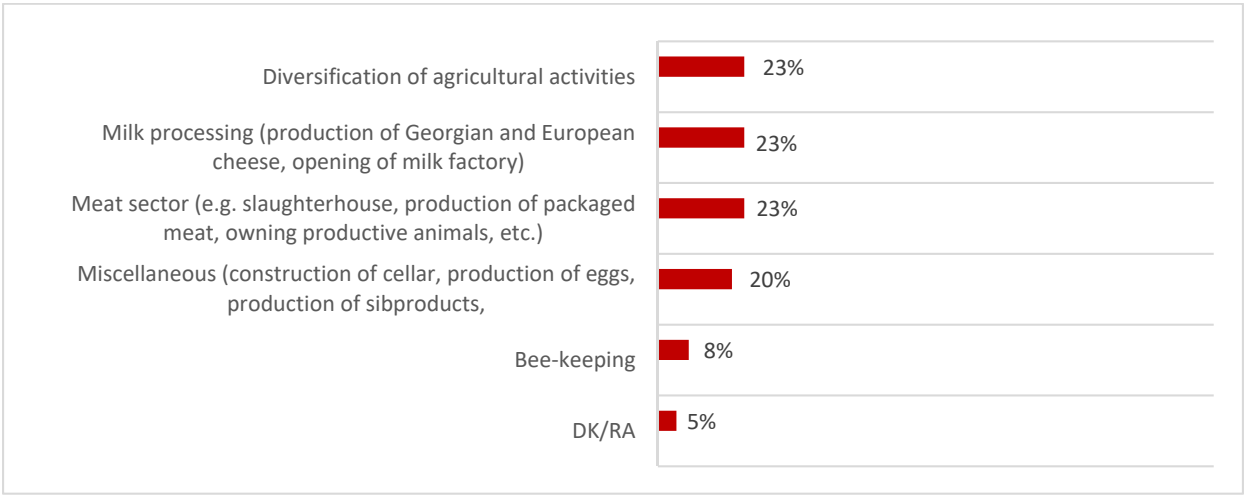

*N=85*




*N=85*

It should be taken into consideration that 23% of the respondents intending to diversify their business activities plan to do so in the direction of dairy production (including the establishment of a dairy venture and the production of Georgian and European cheese), while 23% aim to diversify their business activities in the direction of livestock breeding (slaughterhouses, packaged meat, the acquisition of highly fertile cattle, etc.).

**Figure 49. Desired Fields of the Diversification of Production**




*N=60*

With regards to the future, the conducted qualitative research has confirmed that VCDs **aspire to expand their business activities**. A lack of financial resources was identified as a not altogether insignificant factor hindering the achievement of the above-mentioned intention, while ineffectual enforcement of

regulations was recognized as an important obstacle. As indicated by the interviewed respondents, VCDs consider the introduction/enactment of the regulations and stringent oversight of their enforcement as a necessary prerequisite to the expansion of their business operations. It should be taken into consideration that within the mentioned context, the respondents asserted that the adherence of the existing standards tends to be not a very complicated endeavour, but that the conduct of business in accordance with these standards and regulations represents a precondition for the creation and subsequent development of a healthy business environment.

> *We certainly intend to expand our business... I am seriously considering venturing into not only cheese and Sulguni [type of cheese] production, but into a wide variety of other ventures... Lack of financial resources remains the only impeding factor at this point, as everything else is already sorted out, outlined and planned. [Dairy, Kakheti]*
>
> *Naturally, this enterprise was not established to endure short-term ... Therefore, we are considering the export of honey to the European market. [Honey, Adjara]*
>
> *I own a milk collecting center, but I intend to extend it by providing milk processing services as well. I used to have milk processing services available for a certain period of time, but food safety regulations defined specific norms and standards that I was not able to comply with, therefore I halted milk processing operations. [Dairy, Kakheti]*
>
> *Representatives of the food safety evaluation services visit and inspect us quite frequently. They provide us with specific notes and instructions, and I was even fined once, which I wholeheartedly approve of as I believe that everything should be produced in accordance with the standards. [Dairy, Samtskhe-Javakheti]*

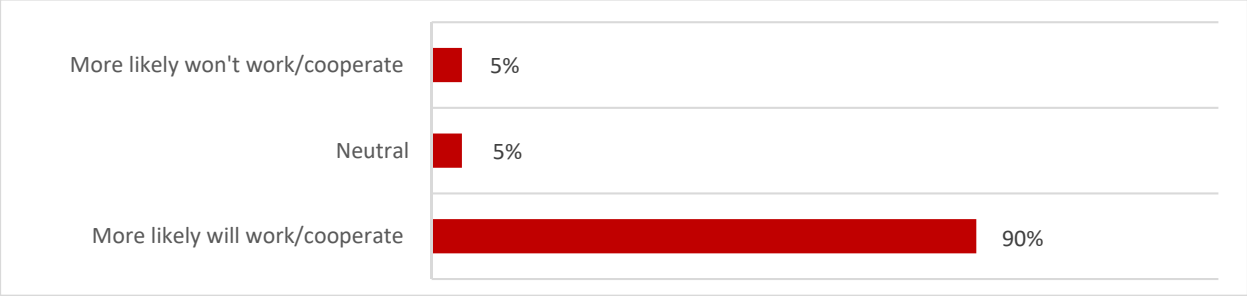
Pertaining to the examination of the **effective enactment of the regulations,** as well as based on the prevalent circumstances on the market, inefficient enforcement of the existing regulations/standards represents the predominant problem as opposed to the absence of said regulations/standards. On one hand, within the framework of the above-mentioned narrative, VCDs consider restriction of the regulations gradually to be of significant importance, while on the other hand, asserting that the above-mentioned regulations are not to be of a selective nature, but rather required of all VCDs.

> *The restriction of the existing regulations should not be so harsh. Moreover, no regulations or laws should be enacted for one person or entity. If certain actions are to be prohibited, they should be prohibited for everyone, regardless. [Dairy, Adjara]*

## 8.2. Cooperation with Smallholder Farmers

One of the primary objectives of the study was to determine VCDs' attitudes regarding potential future partnerships with smallholder farmers. As evidenced by the research results, the majority of VCDs cooperate with smallholder farmers, and therefore an almost absolute majority of value chain drivers (90%) intend to work/cooperate with them over the subsequent two or three years.

**Figure 50. Intention to Work/Cooperate with Smallholder Farmers[29]**

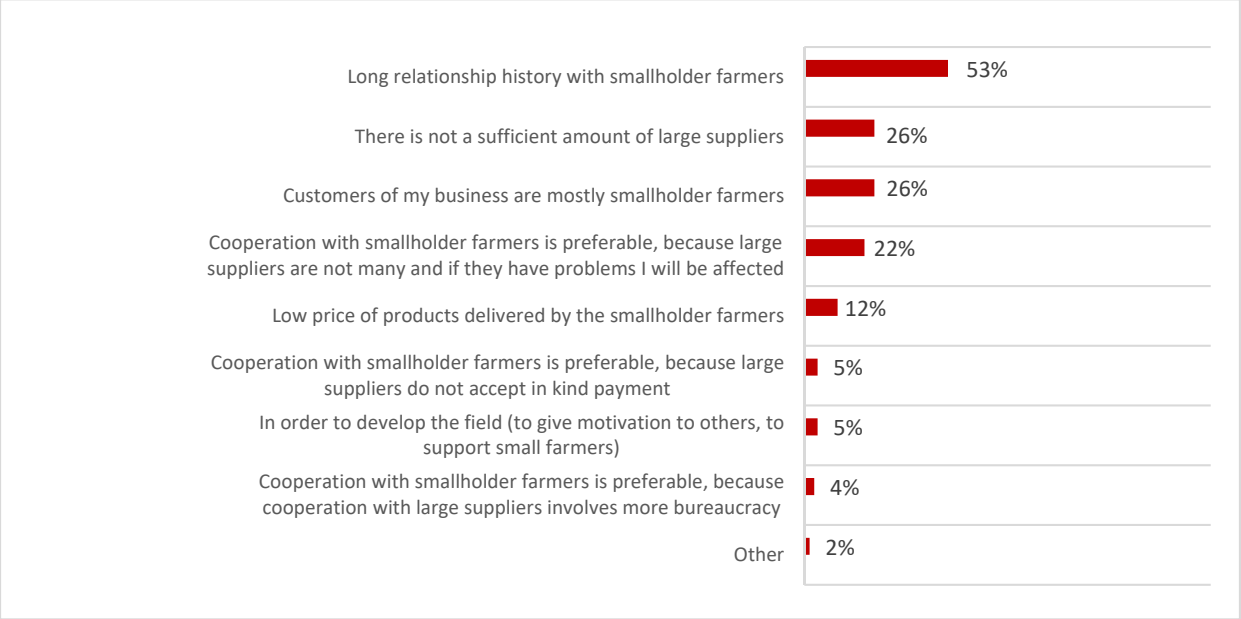



*N=89*

When probed for the principal determinant for **not intending to maintain working relations/cooperation with smallholder farmers** for the subsequent few years, surveyed respondents indicated a variety of justifications, namely: inadequate quality of products produced by smallholder farmers, insufficient quantity of products, as well as unfavourable payment conditions/prices. As for the rationale for **maintaining working relations/cooperation with smallholder farmers** for the subsequent few years, surveyed respondents emphasized the significance of social capital. As for 53% of the value chain drivers, a long-standing history of a professional relationship represents a primary incentive for upholding partnerships with smallholder farmers. Furthermore, a practically identical share of respondents stipulated that an insufficient quantity of large suppliers, together with smallholder farmers being direct customers of the value chain drivers as an incentive to maintain the aforementioned partnership (26%-26%, respectively). It should be noted that among a wide variety of determinants for maintaining working relations/cooperating with smallholder farmers, a majority of the surveyed value chain drivers (37%) defined a long-standing professional relationship with the latter as the primary variable, which further underscores the importance of social capital in such relationships.

[29] Assessment was performed on a 7-point scale (1 = definitely will not cooperate and 7 = definitely will cooperate). In this figure, the scale is recoded as follows: more likely won't cooperate = 1,2,3, neutral = 4 and more likely will work/cooperate = 5,6,7.

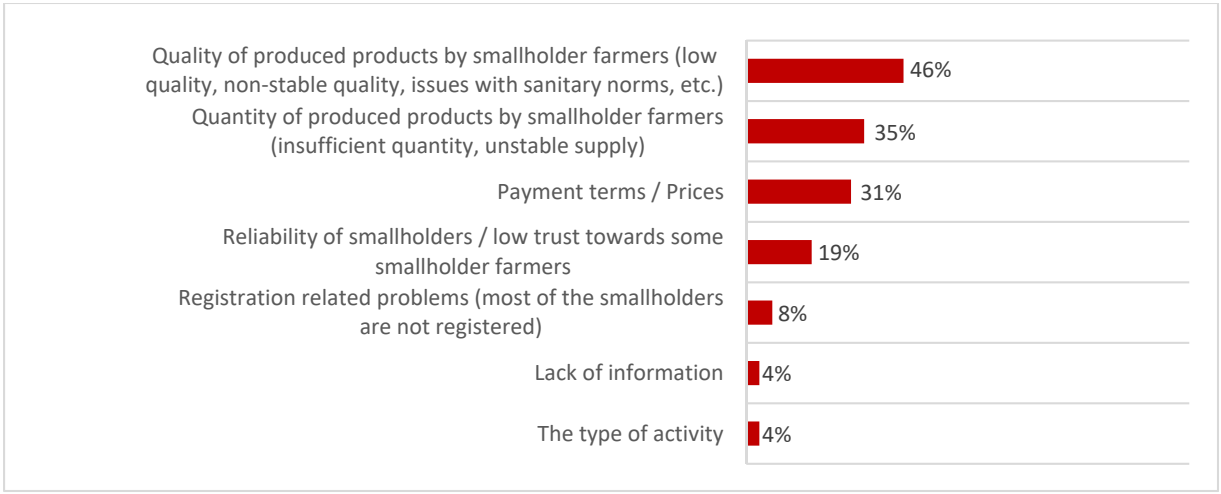
**Figure 51. All Reasons for Working/Cooperating with Smallholder Farmers**




*N=81*

It should also be noted that according to the research results, according to 71% of surveyed VCDs, no obstacles are present within the framework of relationship with smallholder farmers, as opposed to the 29% of respondents who indicate that particular difficulties may arise when cooperating with smallholder farmers. Three of the most frequently named challenges when having working relations with smallholder farmers are as follows: inadequate quality of products produced by smallholder farmers (46%), insufficient quantity of products (35%), as well as unfavorable payment conditions/prices (31%).

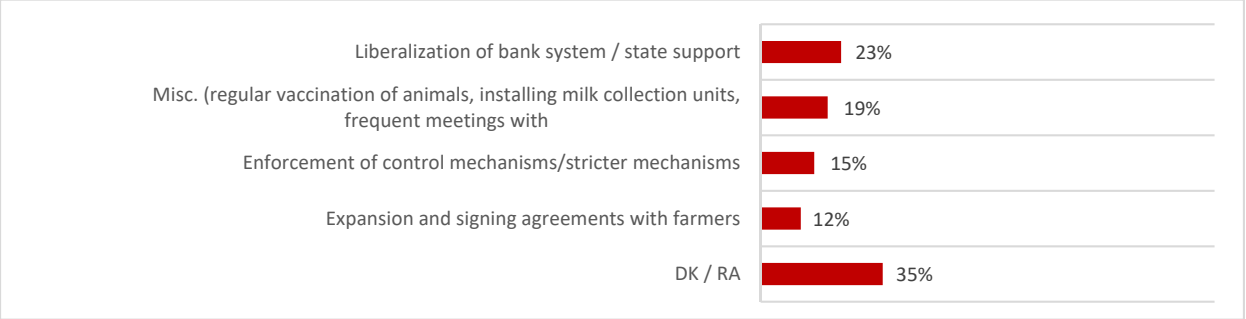
**Figure 52. Key Challenges in Working/Cooperation with Smallholder Farmers**




*N=26*

When probed for the means of resolving existing challenges within the relationship between the smallholder farmers and the value chain drivers, representatives of the latter group, in particular six VCDs, proposed liberalization of the banking system together with state support as the most fundamental strategies (23%). Furthermore, five VCDs suggested the implementation of such activities as vaccinating livestock, launching milk collection centres, organizing frequent meetings with local communities, and getting familiar with various innovations in order to eradicate obstacles existing when cooperating with smallholder farmers. Four interviewed VCDs maintain that reinforcement and further restriction of control mechanisms is the key to problem resolution, while the remaining three VCDs assert that expansion and contract-based relations with smallholder farmers may be effective.

**Figure 53. Means for Challenge Resolution**




*N=26*

According to the conducted research results, every other surveyed value chain driver (54%) intends to retain smallholder farmers as their business supplier over the subsequent two or three years. Seventeen percent of respondents assume the establishment of contract-based relations and cooperation with large suppliers, while 18% of surveyed value chain drivers estimate supplying their business enterprises through goods produced on their own. It should be noted that 11% of the respondents are thus far undecided as to the strategy to be employed within the subsequent few years.

**Figure 54. Intentions Connected with Smallholder Farmers**


*N=89*

As revealed by the conducted qualitative research, VCDs do cooperate with smallholder farmers and intend to maintain such professional relationships in the future. It was further noted that partnership with large farmers and farming enterprises tends to be substantially more advantageous compared to cooperation with smallholder farmers. More particularly, cooperation with a large farming enterprise **saves a considerable amount of time and human resources,** as it allows for both trading and/or purchasing large volumes of products and goods. However, switching solely to the large farming enterprise partnership model is generally deemed as altogether unrealistic by the surveyed VCDs, due to the limited number of such farmers/farming enterprises available on the market. Therefore, VCDs interviewed within the framework of the conducted research still consider smallholder farmers as their primary suppliers/consumers in the nearest future.

> *The fact that large farming enterprises are able to produce large quantities of milk represents one of the primary advantages of cooperating with them over smallholder farmers. Time is a significant factor in this case; I could approach a large farming enterprise and purchase a substantial amount of milk within half an hour... [Dairy, Kakheti]*
>
> *[Partnership with large farming enterprises is significantly more profitable] If we expand to the EU market, we would export no less than 20 tons of honey at one time. We would have to collect the mentioned 20 tons of honey from farmers, so naturally having to purchase from larger farming enterprises is much more beneficial...as each unit of honey needs to be examined and approved according to laboratory standards... Consequently, having to assess honey from five larger farming enterprises is much less challenging than from 20 smallholder farmers. [Honey, Adjara]*
>
> *Cooperation with large farmers and farming enterprises is preferable, however, such enterprises are just now beginning to operate. [Potato, Samtskhe-Javakheti]*
>
> *I do not think there are many large farmers or farming enterprises available in western Georgia. [A single farmer] in Khulo owns a maximum of 15 cows, but only maybe 10% of Khulo residents at most own this number of cows... In general, they tend to own 3-5 cows, therefore I always prefer working with a smallholder farmer to large farmers or farming enterprises. [Dairy, Adjara]*

In addition to large farmers and farming enterprises being scarcely represented on the market, the **importance of social capital** was revealed to represent one of the predominantly notable factors for the maintenance of business cooperation between smallholder farmers and the VCDs. As the results of the conducted qualitative research show, relationships developed over the years between smallholder farmers and the VCDs are of significant value. The above-mentioned relationships besides being of a professional nature, encompass meaningful human factors as well. According to a certain segment of the

interviewed VCDs, they aid smallholder farmers to overcome various obstacles that are not necessarily directly linked to their respective business activities. Consequently, the reservation of the above-mentioned social capital accumulated over the many years of professional relationships was indicated as the most influential incentive for maintaining cooperation with smallholder farmers. From interviews with VCDs, it is evident that the VCDs themselves have invested a lot of resources for building this social capital, since such relationships with smallholder farmers on one hand develops trust towards them, and on the other hand "protects" their cooperation (ensures that farmers deliver to them and do not switch easily to other buyers offering better conditions, e.g. higher prices).

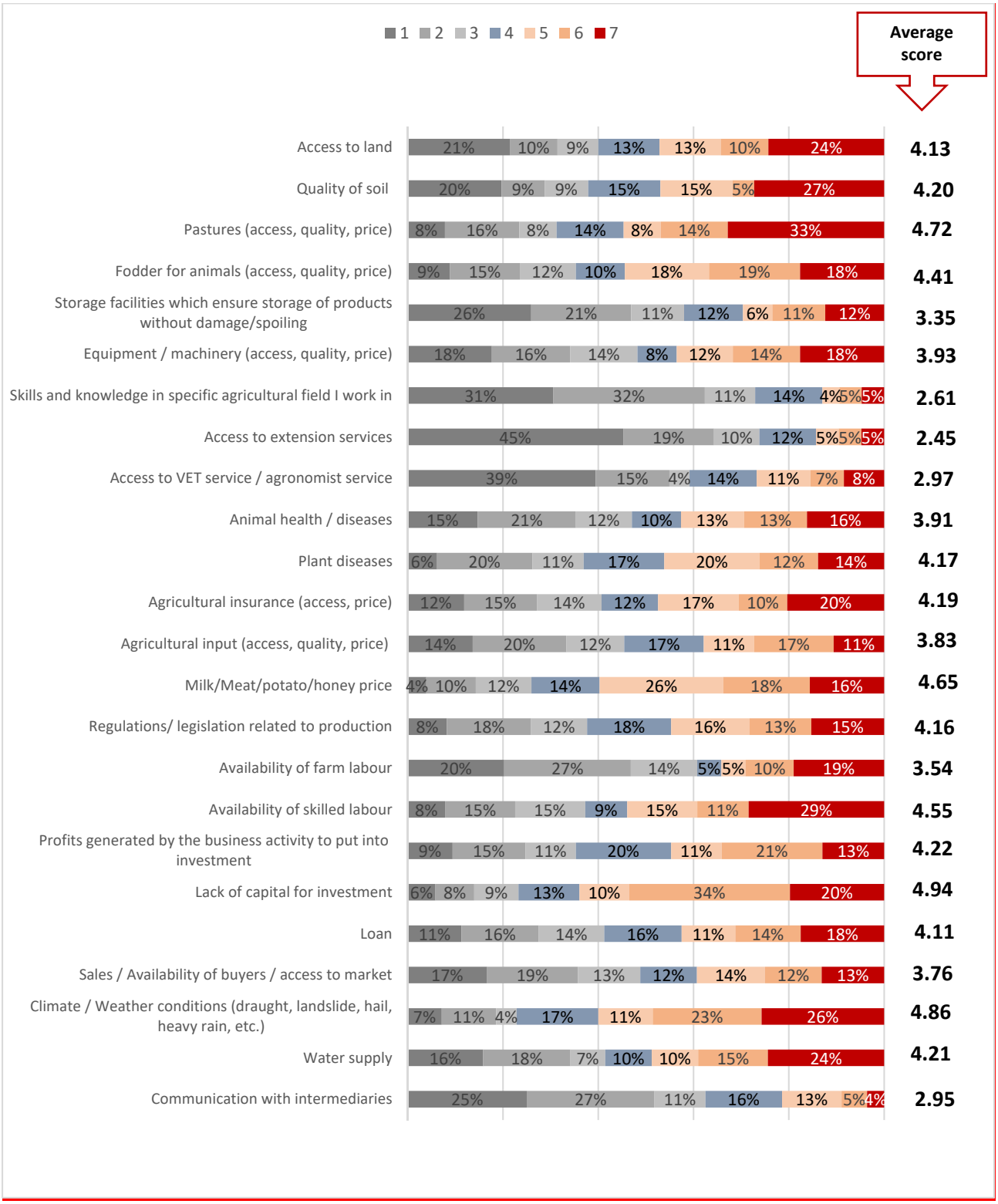
Results of the conducted qualitative research further revealed that the **smallholder farmers' dependence on the VCDs** represents one of the additional benefits of a cooperative relationship. More specifically, based on the responses, smallholder farmers encounter/will encounter certain difficulties when conducting their business operations by bypassing interactions with VCDs, as opposed to the large farmers/farming enterprises that might even be perceived as potential competitors of the VCDs.

> *I won't be able to, neither do I desire to turn my back on [smallholder farmers] regardless of the amount of milk any other enterprise offers me. I have developed close and warm relationships with these farmers over the years. Nor would their 10 or 20 liters of milk be unwelcomed... [Dairy, Kakheti]*
>
> *We helped [smallholder farmers] find their niche on the market. For instance, some of the smallholder farmers are Azeri, so they have difficulties communicating, I always try to assist them in this regard ... You never know when someone from the street gangs targets them, so by constantly being by their side, they are protected from being oppressed. [Meat, Kakheti]*
>
> *There is no point to the existence of our business activities without them [smallholder farmers], as they represent our primary business partners, therefore our prerogative is to serve them ... whether by plowing their land plots, by providing them with pesticides and fertilizers, or by any other means ... [Potato, Kvemo Kartli]*
>
> *Refusal to cooperate with smallholder farmers is not yet of any merit. On the contrary, our responsibility is to assist and help them expand further. [Dairy, Samtskhe-Javakheti]*
>
> *Smallholder farmers are more dependent on our products than large farmers, as for the most part, the latter have their own equipment and therefore their own income. At the same time, they maintain relationships with the same suppliers that I obtain goods from, so they are even able to conduct business with them by bypassing me ... [Potato, Kvemo Kartli]*

## 8.3. Challenges in Business Operations

Almost every issue on the list of prevalent challenges has been assessed as moderately problematic by surveyed value chain drivers. The average assessment of investment capital, climate conditions, as well as pastures and prices of VC products (milk/meat/potato/honey) is virtually identical and is identified as a significant problem. It should be noted that the agricultural input (access to and prices of seeds, herbicides, etc.), as well as knowledge and skills in the agricultural field in which the value chain drivers operate, are identified as the least problematic.

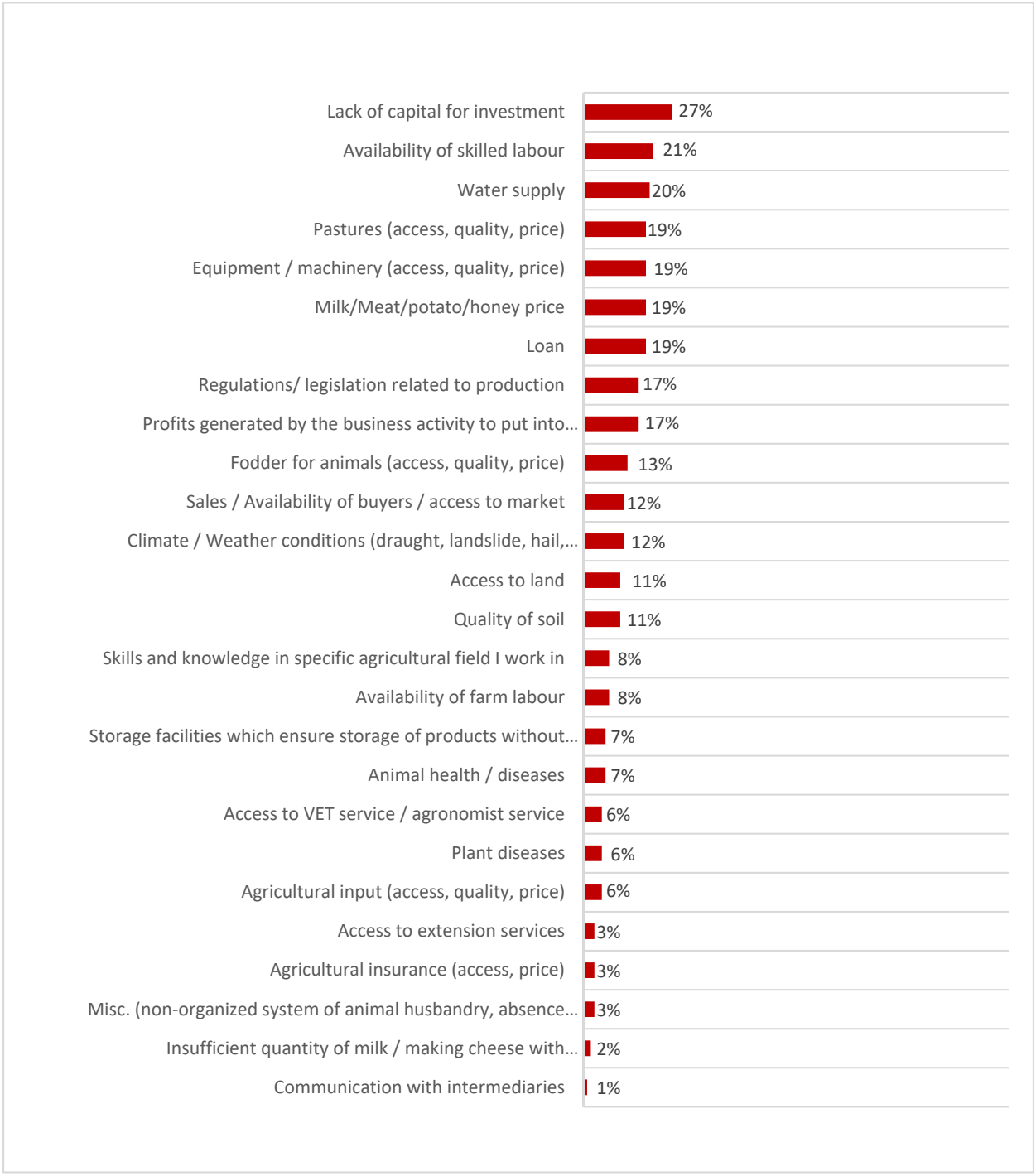
**Figure 55. Challenges within VCDs' Business Activities**




*N=89*

A lack of investment capital was identified as the most prominent issue on the above-presented list of challenges (27%), while the least problematic issue is communication with intermediaries (1%).

**Figure 56. Most Prominent Challenges**




*N=89*

With regards to problems and challenges, the results of the qualitative component of the conducted research have confirmed that VCDs regard **limited access to financial resources** as one of the most pressing issues. Loan-related difficulties are to be considered in this context. More particularly, in addition to the high interest rates factoring as a prevalent obstacle, the conditions for the aforementioned loans required by the financial institutions pose a significant problem as well.

> *I had high hopes for the long-term low-interest loans announced to be available by the Ministry of Agriculture... I was seriously considering taking out a small low-interest agro-loan, hoping to set up a [milk processing enterprise]. I intended to cover the loan gradually, over the years, but unfortunately, there were many hindrances I had to face. They denied a loan when I addressed a certain bank, asserting that I failed to meet their requirements, then I approached another bank with similar outcomes, but after having been rejected by the third bank, I simply decided to halt attempting to procure a loan ... [Dairy, Kakheti]*

With respect to honey, the research results revealed that the formerly prevalent problem of honey falsification has more or less been resolved. Nonetheless, a significantly prominent issue of **disease combatting** still remains as tangible as ever, which, in turn, is the linear consequence of the insufficiently qualified staff employed in this field. It is also noteworthy that the perception of honey as a "delicacy" was identified as a notable problem for the Honey VC which, on one hand, is related to the high price of the product on the market, and to the low rate of promotion of its health properties on the other hand.

> *Honey consumption culture is nearly non-existent in Georgia ... Representatives of our medical fields neglect to advertise the medicinal properties of honey and bee products, and overlook recommending them to patients... We are most commonly approached by Asian consumers who purchase several tons of honey from us for the purposes of maintaining their health, while the Georgian population fails to use this product. Honey is considered a delicacy in Georgia. First and foremost, consumers are deterred from purchasing honey and bee products due to their high price, and at the same time, the honey consumption culture does not exist here... [Honey, Adjara]*
>
> *Beekeepers are not perpetrators of honey fraudulence; such illicit activities are generally committed by mediators and resellers ... We also run an in-house laboratory. We entered the market in 2010; by 2011 the market was so fraught with the falsification that our laboratory was hardly able to handle the amount of analysis needed. Later, they discovered that all of our products were assessed by the laboratory, so they ceased the production of falsified honey. [Honey, Adjara]*
>
> *Beekeepers face a huge problem - the issue of combatting diseases. [...] there is a significant lack of qualified veterinarians that farmers could rely on to treat sick bees, so beekeepers*

*are subjected to lean on unverified information given by whoever. They ask anyone and everyone what needs to be done in these cases and take advice from unsubstantiated sources. They treat their bees with wrong medications, which in turn, weakens the bees' immune system and quickly results in death. [Honey, Adjara]*

It should further be noted that the interviewed VCDs drew particular emphasis on the prominence of **seed potato related issues** among the problems prevalent within the Potato VC. The surveyed VCDs asserted that a number of monetary resources spared for potato seed acquisition does not necessarily guarantee the quality of the seed. An additional problem is posed by the uncertainty of whether a new potato breed can be successfully harvested in a specific region, as adequate mechanisms for the examination/study of these conditions are virtually non-existent. Further concerns within the above-mentioned VC have been identified and are as follows: malfunctioning of the irrigation system, lack of storage facilities, and a high share of imported potatoes on the consumer market.

*The issue pertaining to seed potato farming represents the foremost problem within the potato VC. Not everyone has the opportunity to afford imported potatoes, since they tend to be excessively expensive, so more often than not, VCDs are subjected to purchase local potatoes either from Akhaltsikhe or from Akhalkalaki, which does not provide a quality satisfaction guarantee whatsoever. [Potato, Kvemo Kartli]*

*The most problematic issues at the point represent seed production and a refrigeration system. You are essentially required to have a refrigeration system set up if you want to either survive or thrive in this field. [Potato, Kvemo Kartli]*

*The market is not particularly saturated with quality potato seeds, in fact, such seeds are not available at all. Generally speaking, seed-farming has practically perished in Georgia. No one is to be trusted any longer, and no one is conscious of what is being sold and produced on the market. The local varieties of potato that existed are now completely lost...while the state does not have the incentive nor the program to study potato breeds. The state previously conducted tests for certain varieties of plant and vegetable crops, including potatoes. Trial farms were available, which enabled farmers like me to make sure whether a certain type of potato breed could successfully be harvested in my region, so I was able to purchase directly what I needed. Now there is chaos ... [Potato, Samtskhe-Javakheti]*

*The irrigation system poses a significant [problem]. Despite the overall improvement of the field across the country, including the development of an irrigation network, there are still some uncertainties and issues with regard to the volume and availability of water at a certain time or per season ... [Potato, Kvemo Kartli]*

*The price of potatoes will drop here if the crop's production significantly increases in Kareli or in the Kakheti region, which will consequently result in a decrease of the imported potato price.*

*Currently, potato importers charge an unacceptable amount, which we are not able to afford. The market is utterly unprotected as of now. [Potato Farming, Samtskhe-Javakheti]*

Furthermore, the **scarcity of qualified personnel**, as well as the **pervasiveness of short-term outlooks** were identified as some of the most pressing problems within the conducted qualitative research. Taking relevance of the cultural context into consideration is of vital importance within the above-mentioned framework, as according to the views of study respondents, prevalent social norms are perceived to have a largely negative impact that subsequently hinders social progress. More particularly, based on the leading narrative that emerged within the research, the development of long-term objectives, as opposed to a short-term results-oriented outlook, represents a necessary precondition for progress. Furthermore, it is critical to divert focus on professional/vocational specialization instead of aspiring to hold high/white-collar positions.

*The mentality of a Georgian man dictates that holding a high position is most desirable. I am a head of a department, but an outsider would not know by behaviour, as I sweep and I shovel, and I do the dirty work when it needs to be done. The prevalent Georgian mentality is so toxic as it perpetuates the idea that wearing a tie and being a head or a supervisor means disregarding your inferiors. It means that whoever is in power is obliged to employ cousins and other relatives regardless of their qualifications, which does not help anything. As a matter of fact, it prevents the progress of the business. [Honey, Adjara]*

*Unfortunately, farmers conducting business with a long-term perspective are rarely found in the field. For some reason, everyone tends to assume that one day and even one year should be sufficient to become rich, which of course is far from the reality... [Potato, Kvemo Kartli]*

The state is assigned an essential role in the resolution of the prevailing problems by the VCDs surveyed within the conducted research. According to the prevalent discourse, the **state must ensure the enforcement/restriction of the existing control mechanisms.** This does not only pertain to the control and regulation of the falsified dairy product acceptance/collection process within the dairy VC, but also to enacting restrictions on the massive export of live livestock within the meat VC, as well as to the oversight of the unlicensed seed trade on the market, which represents a particularly pressing issue within the potato VC.

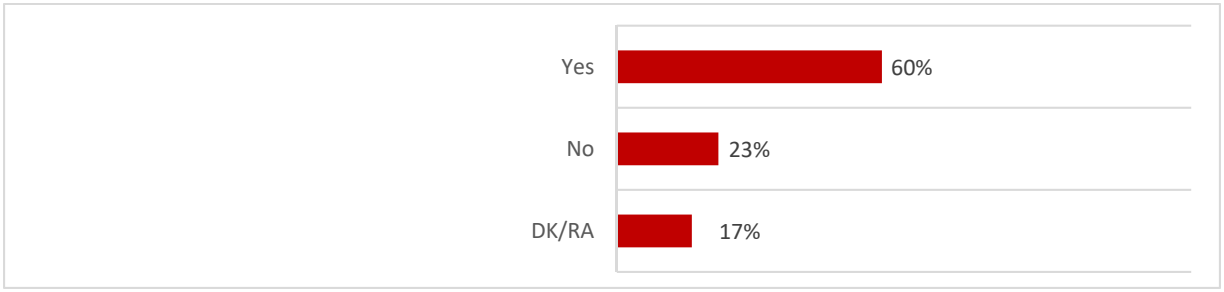
*I am in fierce opposition to the recent trend of exporting neat (large) livestock on foreign markets. We are talking about the export of live cattle, which is already scarce within the confines of the country. Livestock should not be exiting the country. Instead, in addition to promoting lamb sales, the state should ensure that the borders are closed for such business activities ... [Meat, Kakheti]*

> *Not everyone should be entitled to the right to plant and sell seeds… [farmers] should obtain a license under which they should be held responsible for the quality of the potato seed ... and should be obliged to certify that quality. [Potato, Kvemo Kartli]*

## 8.4. Contract Farming

One of the objectives of the conducted research was to determine value chain drivers' attitudes regarding potential future partnerships with contract farmers. Although as evidenced by the survey results, smallholder farmers represent a majority of the percent VCD suppliers surveyed within the framework of the study. Research outcomes revealed that currently, 23% of the surveyed value chain drivers have contract-based relationships with smallholder farmers. When probed about future projections, one in every six VCDs indicated having the intentions for either contracting or prolonging contracts with smallholder farmers (60%), yet 23% of the respondents have no immediate plans for contracting or prolonging contracts with smallholder farmers, and 18% of respondents are undecided on the subject.

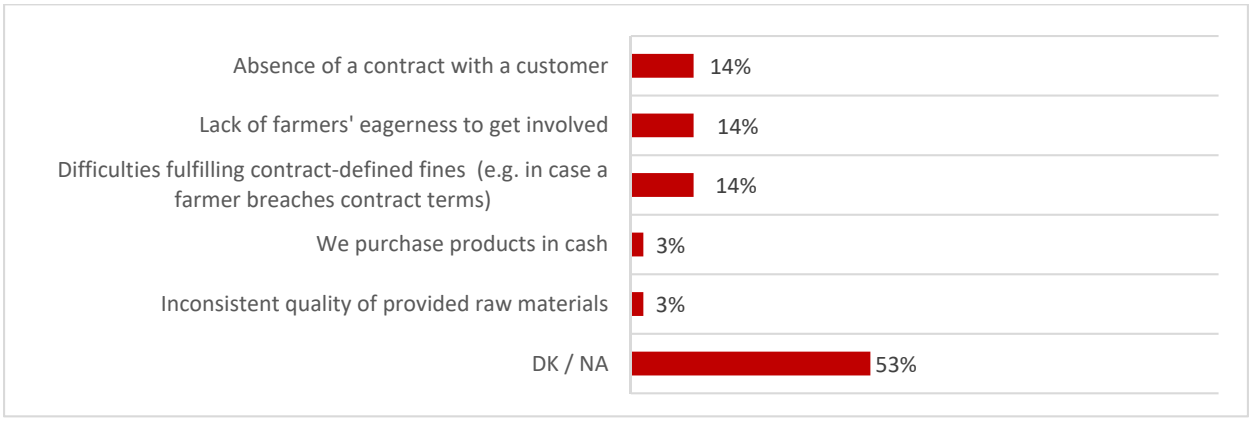
**Figure 57. Intentions to Work/Cooperate with Smallholder Farmers**




*N=89*

Fifty percent of respondents with plans for contracting or prolonging contracts with smallholder farmers have no specific objections and fail to clarify why they would not engage in such working relationships with smallholder farmers. An equal share of surveyed respondents identified the absence of a contract between the VCDs and their customers for produced goods, farmers' own lack of eagerness to engage in contractual relations, as well as difficulties with complying with and subsequently fulfilling contract-defined fines (14%, respectively) as grounds for the refusal to contract smallholder farmers.

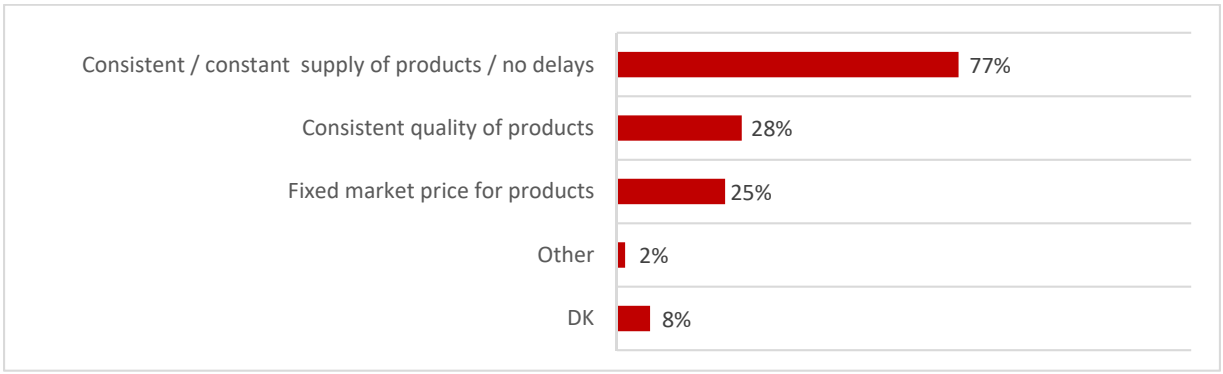
**Figure 58. Reasons for Reluctance to Maintain/Get Involved in Contract Farming in the Future**




*N=36*

Consistent product supply was indicated as the grounds for establishing contract farming with smallholder farmers by 77% of value chain drivers. For 28% of the surveyed respondents, the sustainable quality of the product represents the primary benefit of contract-based relations with smallholder farmers, while the fixed price of the supplied products is of utmost significance for 25% of the value chain drivers.

**Figure 59. Reasons for Willingness to Maintain/Get Involved in Contract Farming in the Future**




*N=53*

According to the results of the conducted qualitative research, attitudes exhibited by VCDs towards contract farming tend to be generally positive. Furthermore, contract farming is perceived as the most efficient and fool-proof planning and production method. However, the above-listed merits neither extend nor are applicable to the Georgian reality, as (except from some single cases) despite the generally positive assessment of contract farming, very few VCDs in Georgia choose to conduct their business by utilizing it, while others have no intentions to transition to the said model in the foreseeable future.

Study results revealed that the grounds for contracting smallholder farmers is quite premature owing to a variety of reasons. More particularly, (1) lack of smallholder farmers' readiness, (2) ill-preparedness of the VCDs, and (3) cultural peculiarities.

On the basis of the inferred discourse regarding **the smallholder farmers' lack of readiness,** it has been revealed that, on one hand, a smallholder farmer is incapable of guaranteeing that he/she will be able to fulfil the terms and conditions of the contract due to multiple factors (climate, season, etc.), while on the other hand, the said smallholder farmer generally prefers to have the security under which he/she is able to sell products at a fixed price, as opposed to being dependent on the market and consequently having to determine the best time to sell at the most profitable price.

> *[Smallholder farmers] are afraid of signing a contract seeing that a given cow producing 15 liters of milk in the summer might produce no more than 5 liters in the winter, which potentially jeopardizes the fulfilment of contract requirements. [Dairy, Kvemo Kartli]*
>
> *Contract farming is not altogether profitable for [smallholder] farmers... what is profitable is selling goods at a high rate while the market allows it... But they are generally afraid that prices on the market might rise and they will consequently be cheated from selling their goods at a higher price than the contract offers. This is wholly understandable, as these farmers raise the livestock themselves and are therefore utterly determined to sell at the highest possible price, which the contact does not necessarily accommodate. [Meat, Kakheti]*

Regarding the inferred discourse on **the VCDs' insufficient degree of readiness**, although precedent of employing the contract farming model exists (primarily with large farmers or farming enterprises), and as VCDs do not have contract-based relationships with their consumers, they are consequently incapable of signing such contracts with smallholder farmers owing to issues related to the inability to provide tangible guarantees that the contract terms and conditions will be fulfilled. It has further been noted that even those VCDs with contract-based relationships with consumers are not able to ensure that the said contracted consumers will uphold their end of the duties and responsibilities set by contract conditions.

> *Large farmers or farming enterprises approach us themselves offering contract-based partnership... The responsibilities of both parties are strictly defined, as according to the contract the aforementioned farmer is not officially obliged to pay immediately upon the receipt of the product, but rather by the following month. This particular clause represents the cornerstone of the contract, and therefore lets me forego any concerns regarding whether I will receive payment or not, while the contractor is also able to take its time. [Potato, Kakheti]*
>
> *Why not? I would not mind signing a contract as it provides security in the knowledge that there will be no hiccups in the payment process. Nonetheless, there are no absolute guarantees. For instance, there have been cases when having provided what I consider quality milk, I was offered 60 Tetris instead of the customary 1 GEL per liter, alleging that the quality criteria were not met, so I could either succumb to their proposal or search for other places that would accept my product. [Dairy, Kakheti]*

As for **cultural peculiarities**, it should be noted that the conducted research results on one hand revealed the significance of social capital, and on the other hand, determined that the society lacks experience in adjusting the above-mentioned type of business relationships to a formal framework. As evidenced by the qualitative research results, professional relations/partnerships between VCDs and smallholder farmers are based on verbal agreements that are henceforth perceived as a "binding contract" between the two parties. The long-lasting experience of cooperation built over the many years poses as the fundamental factor for trust between the parties, and in turn, precisely such cooperation and trust warrants the mutual desire to maintain the partnership.

> *A contract may be verbal based on a cordial relationship. I would rather keep employing a beekeeper on a permanent basis and not jeopardize an existing partnership than form a new contract with someone offering lower prices... I have been and continue to work under such conditions myself, and I have my customers who I wouldn't want to be set aside by. Such treatment would be hurtful... It would be extremely difficult, not to mention offensive if after having laboured all winter, a customer decided to cease employing me in favour of another farmer. [Honey, Adjara]*

As for the experience, or lack thereof, the prevailing narratives emerging within the frame of the qualitative research exhibited that the relationship-based partnerships between VCDs and smallholder farmers are among the principal incentive factors for maintaining the above-mentioned tried and tested business model, while such formalities as reading through, signing, and fulfilment of the terms and conditions of a written contract represent hindering factors for the relationship. Furthermore, language barrier issues present in particular regions (Kvemo Kartli, Samtskhe-Javakheti) add to the predisposition to avoid the establishment of formal contract-based partnerships. Conversely, as opposed to providing certain relief in the VCD-smallholder farmer work process, contract farming often creates more complications. Consequently, VCDs tend to prefer cooperating with smallholder farmers based on the "verbal contract" model.

It should further be taken into consideration that according to the research results, attitudes towards contract farming may differ across various age groups. Past experiences of relatively senior farmers, which naturally implies relationship-based partnerships without formal contracts, hinder the enforcement and spreading of the new work model, and therefore older smallholder farmers, as a rule, prefer to conduct business relations by adhering to the already tried and tested means. The younger generation farmers are potentially more likely to alter their perspectives and attitudes, consequently exhibiting a readiness to form contract-based partnerships; however, such an outlook is considered to be more realistic in the long-term future.

> *Signing contracts with every single smallholder farmer we work with will waste more of our time than we are willing to forego. A significant number of our cooperating partners are not*

> *Georgian, meaning that said contracts would have to be read to them. Furthermore, these farmers look down upon the contract seal with a questioning and often mistrustful gaze, proclaiming that signatures and seals are redundant and utterly unnecessary as they already tend to trust us. Even suggesting a shift to a contract-based relationship would stir conflict and create complications between us and the smallholder farmers. [Potato, Kvemo Kartli]*
>
> *[Some of the smallholder farmers] are utterly none the wiser about the contract-based relationships and all they imply. All a farmer knows is that he must produce honey, sell it and make a profit... You would only be able to explain the implications and benefits of the contract farming to a relatively young and educated farmer who has previously ventured outside of Georgia, but a 50-60-year-old farmer simply will neither understand why contract farming might be of merit nor would he want to do so, as there is absolutely no perceived need for it. [Honey, Adjara]*
>
> *I wanted to sign contracts with smallholder farmers as well, but their mentality does not allow for understanding how and why contract farming might be beneficial. Once the conversation touches any sort of formal documentation or papers, they refuse to provide their signature, point blank. I have a sneaking suspicion that such attitudes originate from earlier times and generations, but I can't be sure. [Dairy, Kakheti]*

Nonetheless, a certain noteworthy precedent is to be mentioned. More specifically, a model of business partnership between VCDs within the potato VC and a handful of contract smallholder farmers, which is based on the supply of potato seeds, fertilizers, pesticides, and herbicides necessary for farming a particular type of potato breed used in for potato chip production, in addition to offering harvest monitoring and oversight services. In accordance with the aforementioned contract, which guarantees collection of the smallholder farmers' entire harvest in and of itself, one of the necessary preconditions represents planting and harvesting of the exact type of potato seed supplied by the contractor VCD. The above-described model of business partnership has been working successfully for the past several years and consequently, VCDs are spared from having to persuade smallholder farmers in the superiority and potential advantages of such a model.

> *We no longer have to convince our partner smallholder farmers, as the word tends to spread that we do not deceive them and fulfil our side of obligations honourably. [Potato, Kvemo Kartli]*

According to one of the narratives that emerged within the frame of the conducted qualitative research, interpersonal relations are considered of more importance even in the existence of a contract, as taking the prevalent reality into account, the enforcement of sanctions in the event of non-fulfilment of the obligations and requirements under the same contract is a challenging endeavour.

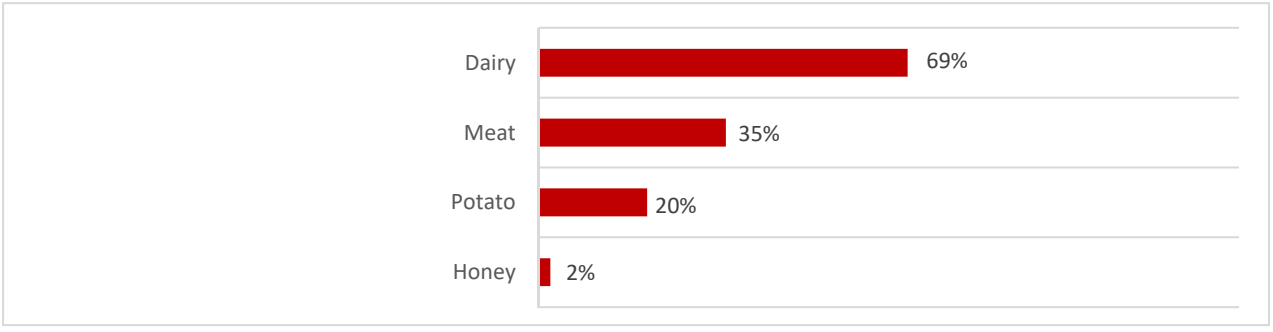
*[Signing of contract] is utterly unnecessary. Who would you intend to sign a contract with, as you could not possibly foresee which particular farmers would want to cooperate with you. It might just as easily be a farmer from Akhalkalaki as a farmer from Aspindza. […] Having a secure guarantee is certainly great, but the current system is not yet sufficiently developed for me to offer smallholder farmers a contract-based partnership for every 300 kg. of potatoes... it just complicates the whole process. [Potato, Samtskhe-Javakheti]*

*Having maintained relationships based on verbal agreements, we have not yet experienced any difficulties with our partners. The only issue we might potentially encounter is a delayed payment, which can be easily handled and therefore does not actually pose a significant problem... These types of [farmers] would rather approach some other VCD offering a two more Tetri discount on their product than sign any type of contract with us, particularly if the subject of fines or sanctions is brought up. Our business activities are predominantly based on interpersonal relationships. [Potato, Kvemo Kartli]*

## 8.5. Value Chain Drivers and Their Business Activities

In Georgia, VCDs in four target value chains, namely, meat, dairy, potatoes, and honey were interviewed. In total, 89 face-to-face interviews with value chain drivers in all four target regions (Adjara, Kakheti, Kvemo Kartli, Samtskhe-Javakheti) have been conducted within the framework of the quantitative research, according to which the majority of the surveyed value chain drivers (69%) conduct professional activities in the dairy production value chain. Thirty-five percent of surveyed value chain drivers are engaged in the meat VC, 20% are occupied with potato farming, and 2% are represented in the beekeeping VC.

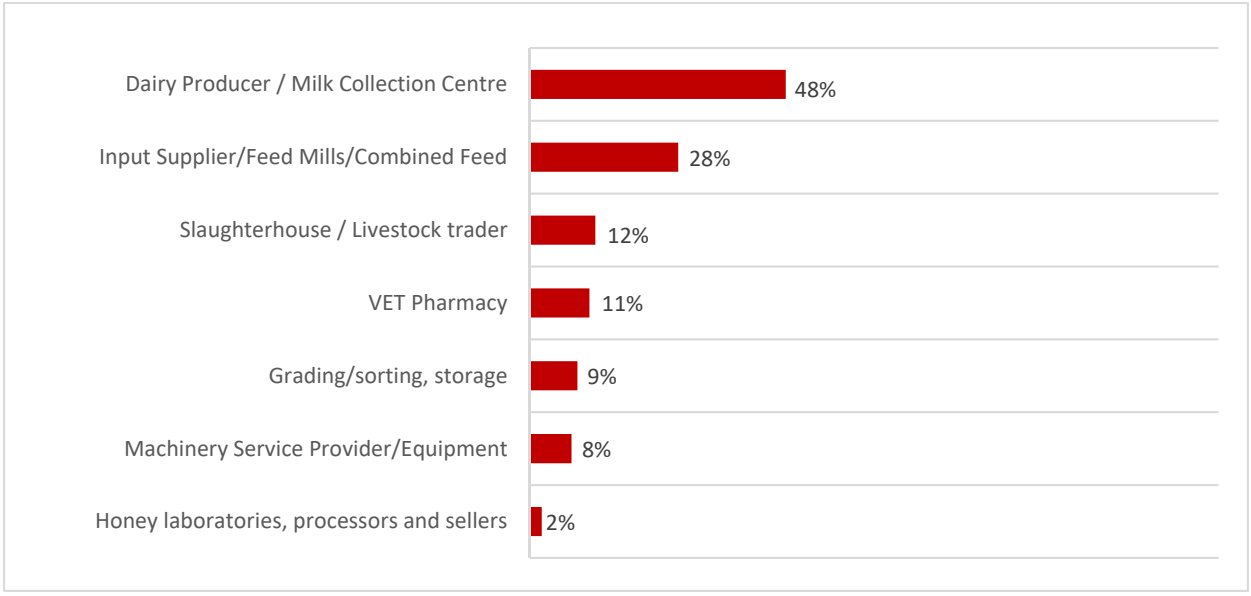
**Figure 60. Distribution of Interviewed VCDs by VCs**




*N=89*

As for the types of production activities conducted by the survey target group, 48% of surveyed VCDs are engaged in dairy production/processing, 27% represent input suppliers/feed production, 12% of the respondents operate in the field of livestock trade/slaughterhouse, while 11% are occupied within veterinary pharmacies.

**Figure 61. Types of Interviewed VCDs**



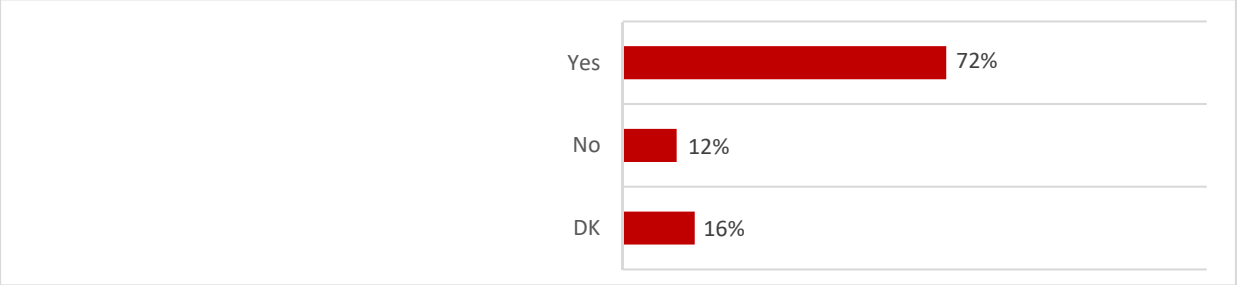

*N=89*

As shown by research results, six out of every ten surveyed VCDs conduct activities solely within the agricultural sector (60%), while four out of every ten surveyed value chain drivers are also engaged in other sectors and business activities (40%). Nonetheless, a majority of the value chain drivers within the latter segment tend to conduct other activities within the agricultural field (64%), either in the capacity of production (50%), or service provision (14%). Thirty-three percent of respondents are reported to conduct business activities outside of the agricultural sector.

According to survey results, 57% of the VCDs have obtained loans from a bank or other financial authority in 2016, while the remaining 42% reported no such experience in 2016. In accordance with the 2017 data, 42% of the surveyed respondents do not plan on drawing loans for their business operations, while 25% are still uncertain. Nonetheless, approximately 34% of the respondents have already drawn loans from a variety of sources.

As for the forthcoming two or three-year plan, 72% of the surveyed respondents intend to invest in the agricultural sector. Nearly 16% of surveyed respondents are undecided regarding the aforementioned investment, while 12% have no plans or intentions to invest in their business operations over the upcoming few years.

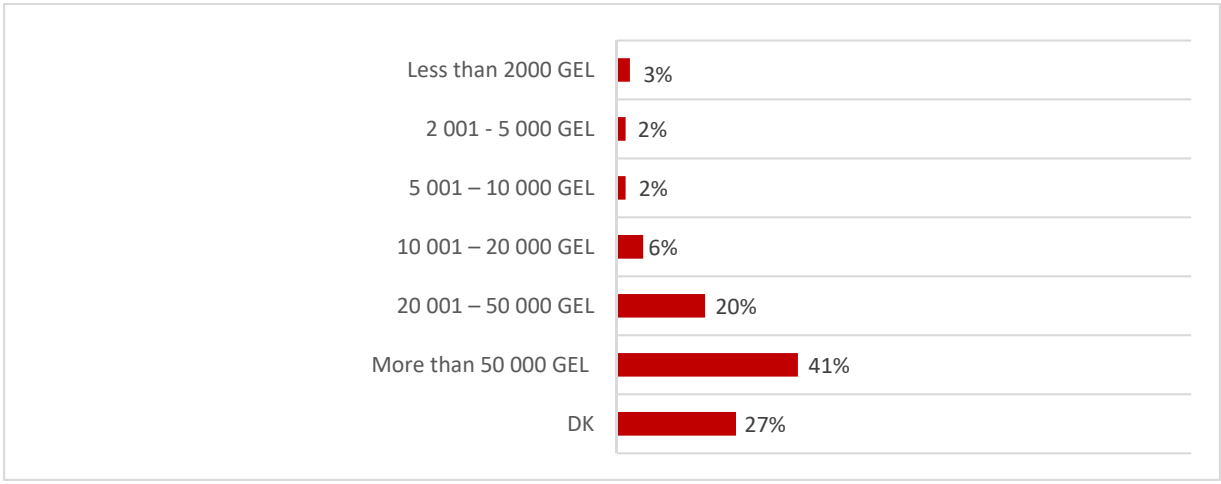
**Figure 62. Intentions to Invest in Their Business for the Subsequent 2-3 Years**




*N=89*

Twenty-seven percent of the value chain drivers intending to make an investment in their business activities within the subsequent two or three years still have not arranged a definite plan for allocating specific funds, as opposed to the 41% of the respondents who reportedly intend to invest over 50,000 GEL in their business activities, as well as the 20% who plan to make an investment between 20,001 and 50,000 GEL.

**Figure 63. Intentions to Invest in Their Business for the Subsequent Years**




*N=64*

As for trainings and consultations, according to the survey responses, 93% of interviewed value chain drivers (or their employees) have previously attended various trainings, while 98% have received consultations with regards to the activities at hand.

# 9. Research Results – Farmer Study in Armenia[30]

The study results for the farmers' study are presented in three main chapters:

**(1) Outlook of Farmers** – this chapter reviews the intentions of farmers related to their agricultural activities. Information about confidence in agricultural activities, as well as intentions to stay in or quit agriculture are presented. The chapter also includes data on the investment experience and intentions to invest in agriculture, as well as the experience of obtaining loans and intentions in this regard. The challenges of agricultural activities that can negatively affect farmers' intentions to stay in agriculture are also reviewed.

**(2) Contract Farming** – The final chapter reviews the views and opinions of farmers on contracting practices, including the perceived advantages and disadvantages of contract farming.

**(3) Description/Characteristics of Farmers & Farming HHs** – this chapter provides an overview of surveyed farmers and their farming HHs in treatment and control settlements, and describes the various characteristics of those. Information about HH demographics, agricultural activities of the HHs, their experience of attending trainings or receiving extension services, and other characteristics of interviewed farmers and their HH members.

[30] Note: *** and ** indicate significance at 5% and 10%, respectively.

## 9.1. Outlook of Farmers

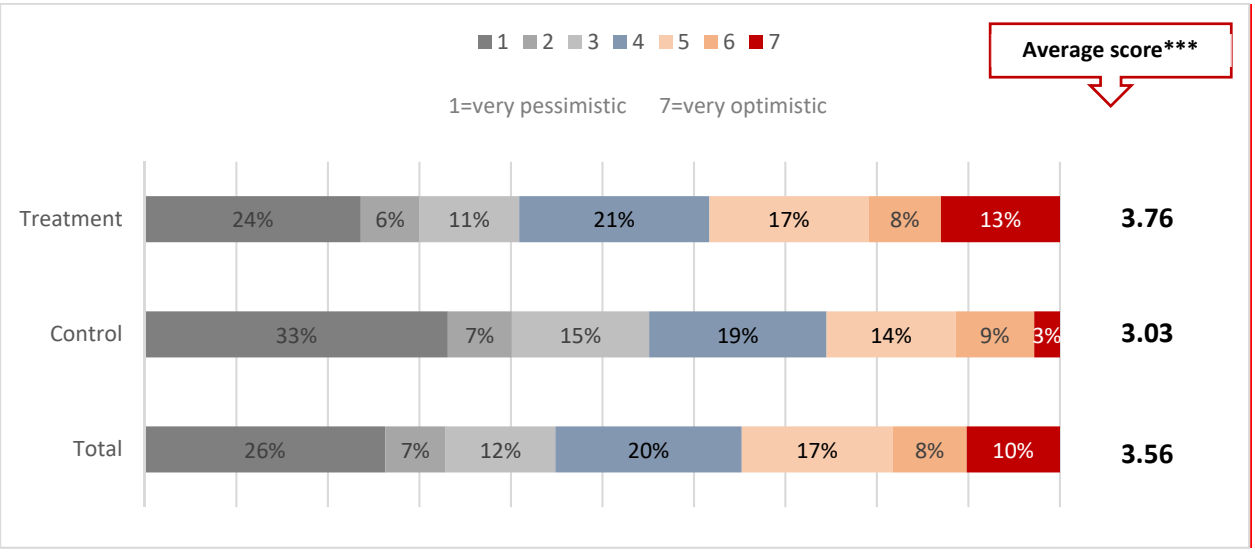
### 9.1.1. Confidence about Agricultural Activities and the Intentions of Farmers to Stay in or Quit Agriculture

The main objective of the study was to understand the views and opinions of study participants on the future of the agricultural sector and their role within it in terms of their intentions related to their agricultural activities. For this purpose, survey respondents were inquired on their views about the future of various agricultural activities in general, as well as personally in the VC in which they are involved. Afterwards, farmers were asked about their intentions in relation to their future agricultural activities, (i.e. whether they intended to remain in agriculture or quit this sector).

The interviewed farmers in Armenia were asked to assess their confidence in the **future of agricultural activities** related to the target VCs (dairy/meat/horticulture) in their region over the next five years.

As survey results suggest, in general, the expectations regarding **horticulture production** among interviewed farmers in Armenia are more pessimistic. Only every third respondent (35%) feels confident about the future of horticulture farming in their region (provides a score of 5, 6 or 7), with the average response across the sample coming out at 3.56 on a 7-point scale, where 1 indicates very pessimistic and 7 indicates very optimistic. Interviewed farmers in treatment settlements show a more positive outlook related to horticultural farming (an average of 3.76 points) than farmers in control areas (an average of 3.03 points).

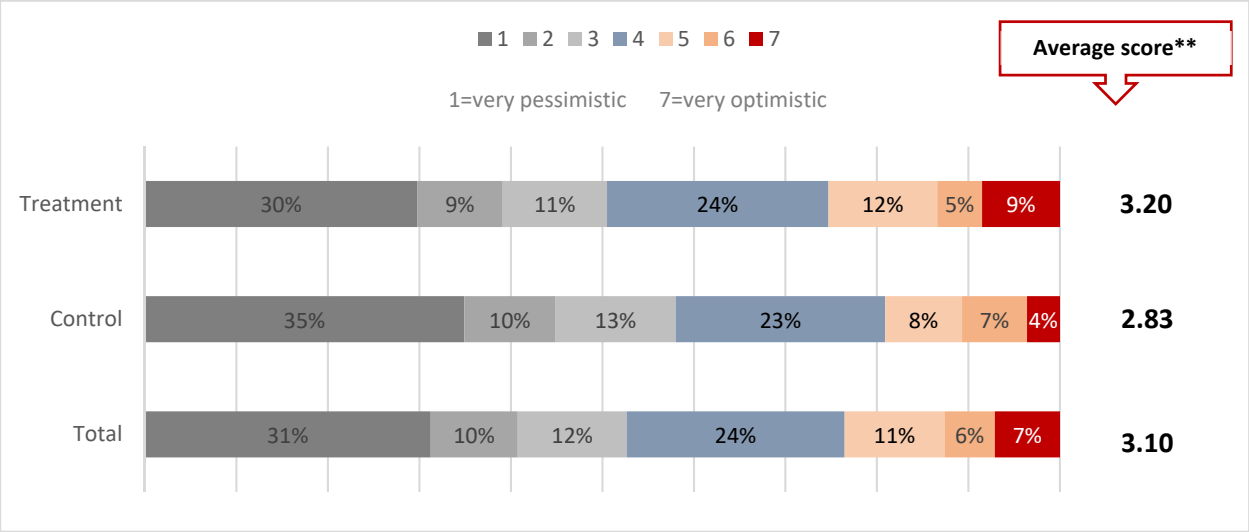
**Figure 64. Views about the Future of Horticulture (General Assessment in Own Region) *****




*N=600*

As for the views of farmers in terms of **meat production**, a pessimistic trend is evident. More than half of the respondents (53%) were not confident about the prospects of meat production in their region over the next five years, with 31% giving the lowest confidence rating of 1, which led to an average rating of 3.10. Similar to horticulture, the share of farmers that provide a positive evaluation is slightly higher in treatment settlements than in control settlements.

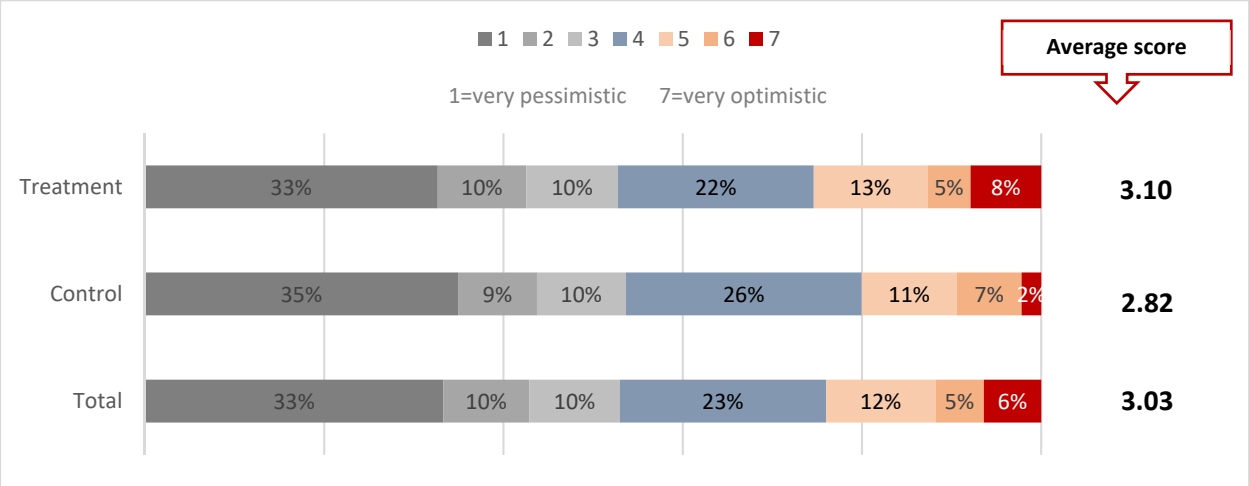
**Figure 65. Views about the Future of Meat Production (General Assessment in Own Region) ****




*N=600*

According to surveyed farmers, the prospects of **dairy production** are also not very optimistic. The mean score for confidence in the future of dairy production equals 3.03. The share of positively inclined respondents, providing scores 5, 6 or 7 is only 23%. Again, the assessment provided by farmers from the treatment area is slightly more positive than the assessment provided by farmers in the control area.

**Figure 66. Views about the Future of Dairy Farming (General Assessment in Own Region) *****




*N=600*

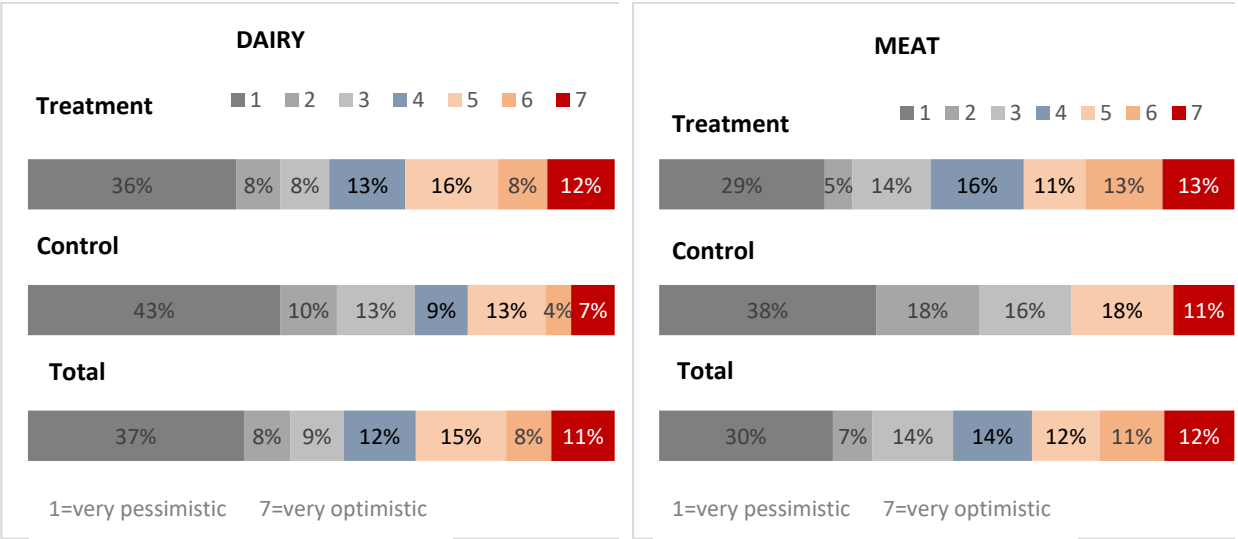
Survey participant farmers were also asked about their confidence in **their own agricultural activities** over the next five years. As survey results show, farmers involved in the meat and horticulture VCs are more confident in the future prospects of their farms than farmers involved in the dairy VC. The mean score for confidence in the future of meat and horticulture farming stands at almost 4 for farmers in these VCs. Farmers in the dairy VC score an average response of 3.25.

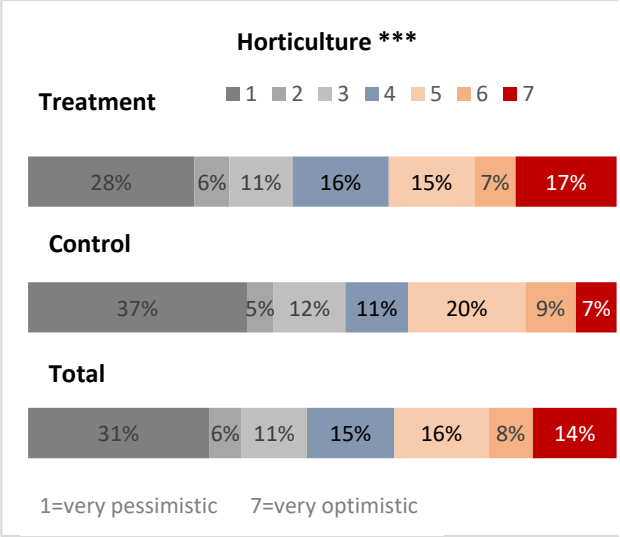
**Table 18. Views about the Future of Dairy/Meat/Horticulture Production (Assessment of Own Agricultural Activities) (Mean Values)**

| Mean | Treatment | Control | Total | |
|---|---|---|---|---|
| **Dairy*** ** | 3.35 | 2.81 | 3.25 | *N=538* |
| **Meat** | 3.65 | 2.85 | 3.52 | *N=540* |
| **Horticulture** | 3.49 | 3.23 | 3.42 | *N=553* |

A look at the percentage distribution of the farmers' confidence in their own agricultural activities reveals that in the case of farmers involved in the dairy VC, a majority of respondents have a negative outlook (54% providing scores 1, 2, or 3). Thirty-five percent of farmers in the meat VC and 38 percent of farmers in the horticulture VC provide high scores (5, 6 or 7) when assessing their confidence in the future of their own meat and horticulture production in the upcoming years.

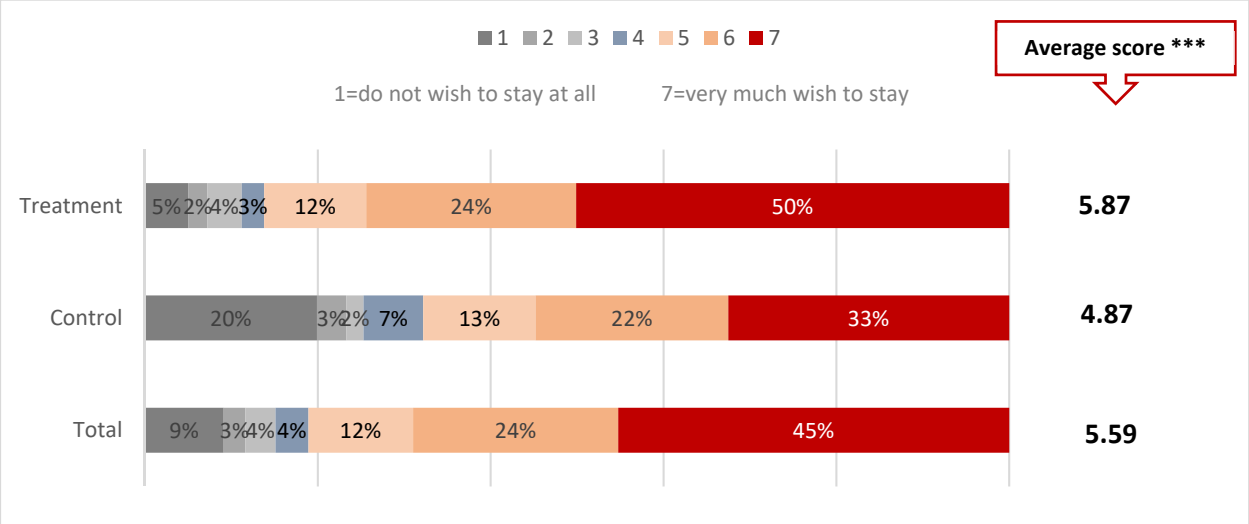
**Figure 67. Views about the Future of Dairy/Meat/Horticulture Production (Assessment of Own Agricultural Activities)**






Farmers currently engaged in agriculture were asked about their **intentions to stay or quit their agricultural activities**. Survey respondent farmers were asked if they would like to stay in agriculture in the next two or three years. As survey results demonstrate, a large share of farmers in Armenia express a desire to stay in agriculture (81% of respondents providing scores 5, 6 or 7). The mean score for theintention to stay or quit current agricultural activities equals 5.59. Intentions in this regard are more positively assessed by inquired farmers in treatment settlements than in control locations.

**Figure 68. Intentions of Farmers related to their Agricultural Activities *****

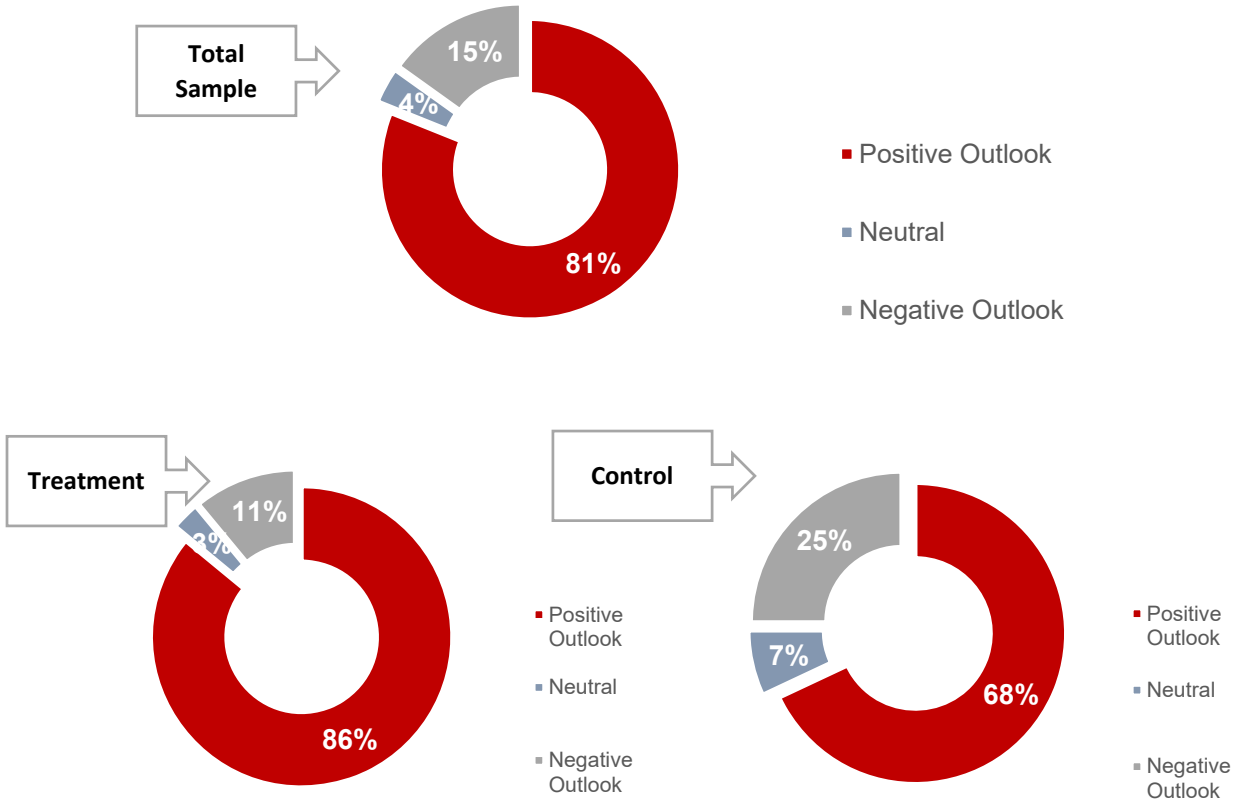



*N=600*

On a scale from 1 to 7, where 1 indicated no wish to stay in agriculture at all and 7 signified a strong wish to stay, 81% of respondents indicated scores 5,6 or 7. As survey results show, only a few interviewed farmers in Armenia (four percent) provide a neutral assessment (score of 4), whereas some farmers (15%)

are more inclined to leave the agricultural sector. A comparison of farmers from treatment and control settlements shows that more farmers from the control settlements provide lower scores (1,2,3) when assessing their intentions to stay in or to quit agriculture over the next two or three years (25%), compared to the farmers from treatment settlements (11%).

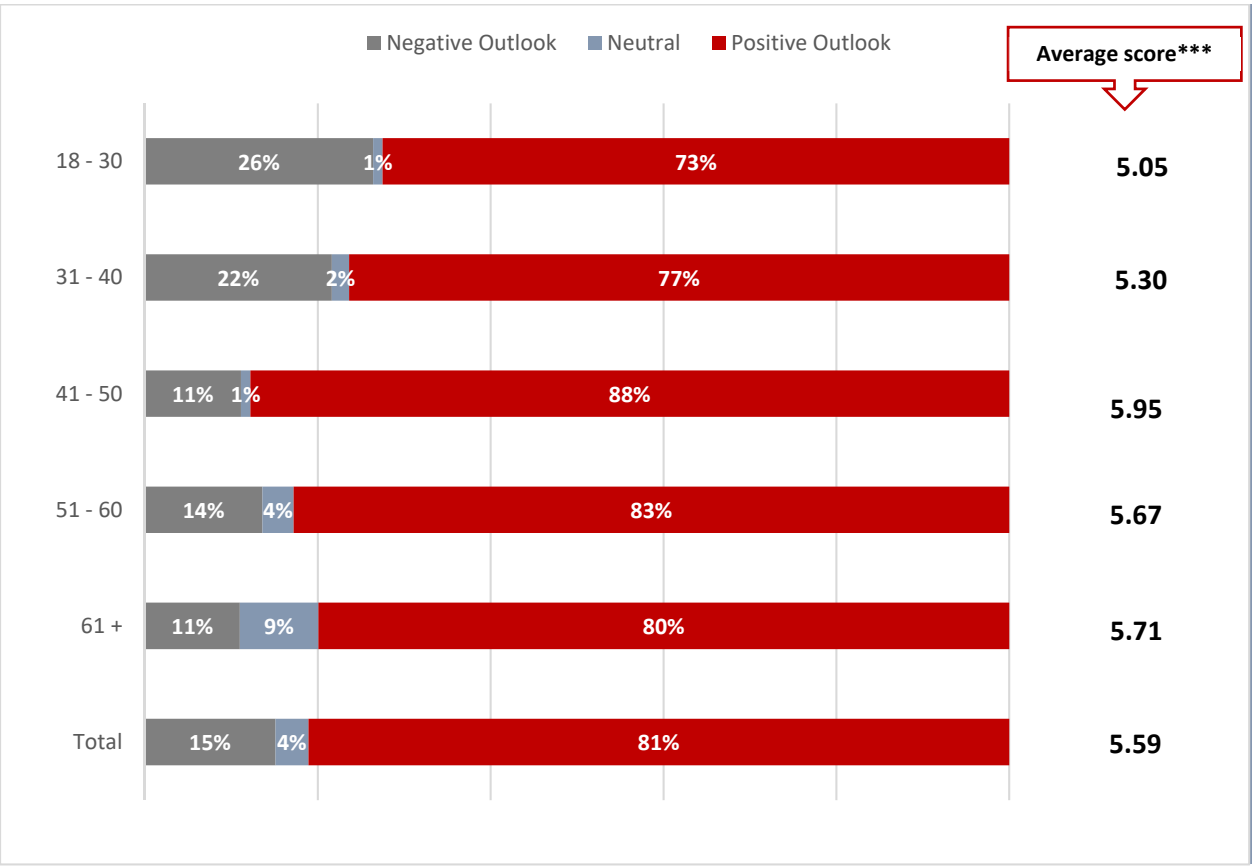
**Figure 69. Intentions of Farmers related to their Agricultural Activities[31] *****




[31] An assessment was performed on a 7-point scale (1 = do not wish to stay at all and 7 = very much wish to stay). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

Interestingly, an analysis of the intentions to stay in or quit agriculture by different age groups shows that a larger share of farmers aged 31 and older are inclined to stay in agriculture. The youngest (18-30) age group provides relatively lower scores more frequently while assessing their intentions related to agricultural activities, however, the average score for this age group is still high (5.05).

**Figure 70. Intentions of Farmers related to their Agricultural Activities by Age Group[32]****

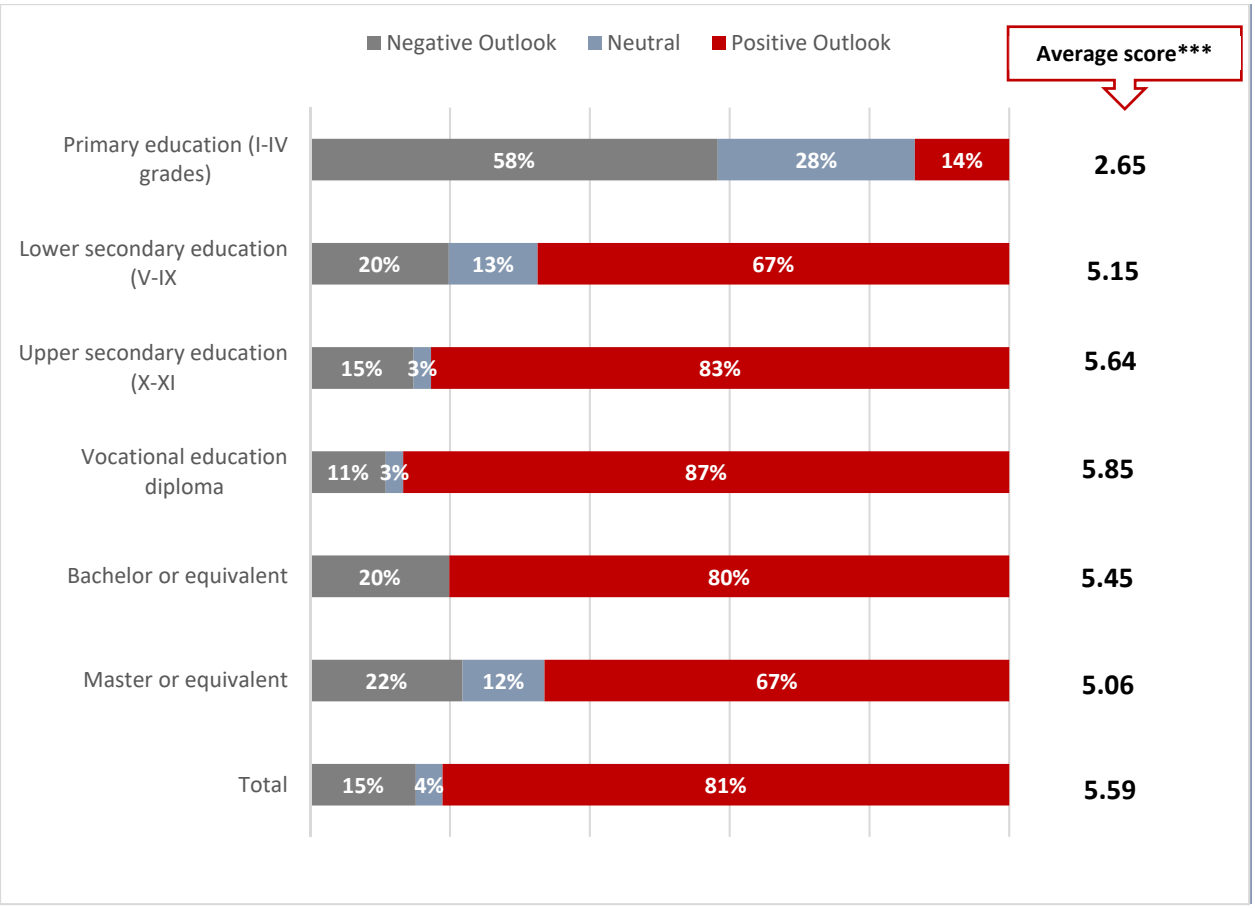



*N=600*

[32] An assessment was performed on a 7-point scale (1 = do not wish to stay at all and 7 = very much wish to stay). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

As for education, farmers with primary education are more inclined to provide lower scores while assessing their intentions to stay in agriculture, whereas farmers with vocational education are the ones who provide the highest average score (5.85).

**Figure 71. Intentions of Farmers related to their Agricultural Activities by Education[33]*****

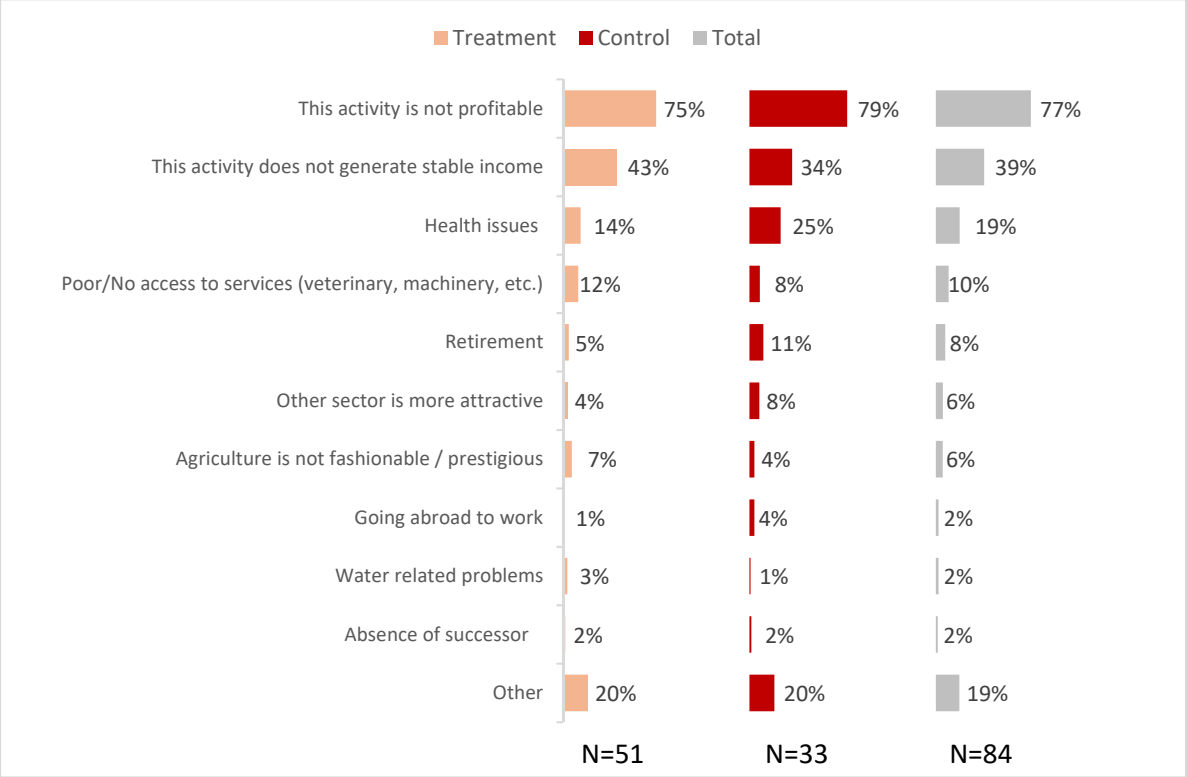



*N=600*

Farmers who stated that they did not have a strong wish to stay in agriculture (indicated scores 1, 2 or 3), were asked about their **reasons of the wish to quit agriculture**. A majority of respondents linked their low desire to stay in agriculture with the low financial profitability of agricultural activities. Thirty-nine percent of respondents indicated that agricultural activities do not generate a stable income, whereas 77% of farmers stated that agriculture is not a profitable activity. Issues related to financial resources are among the top named reasons among both treatment and control locations.

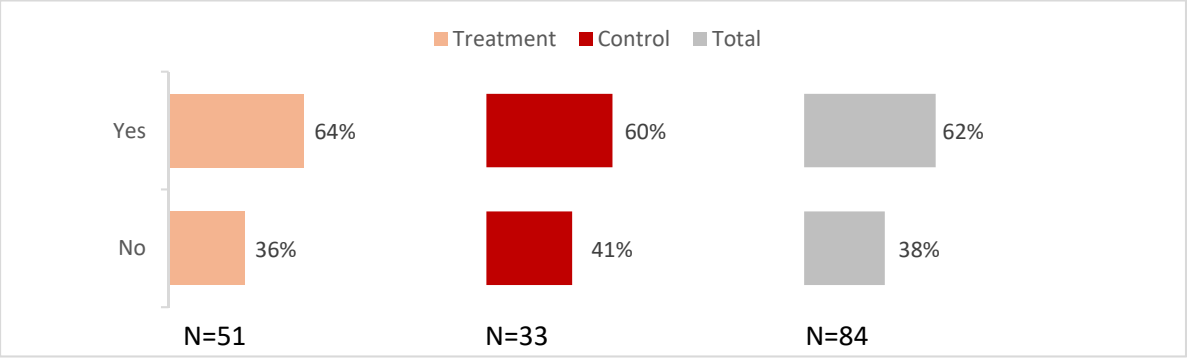
[33] An assessment was performed on a 7-point scale (1 = do not wish to stay at all and 7 = very much wish to stay). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

**Figure 72. Reasons for Not Having a Strong Wish to Stay in Agriculture**



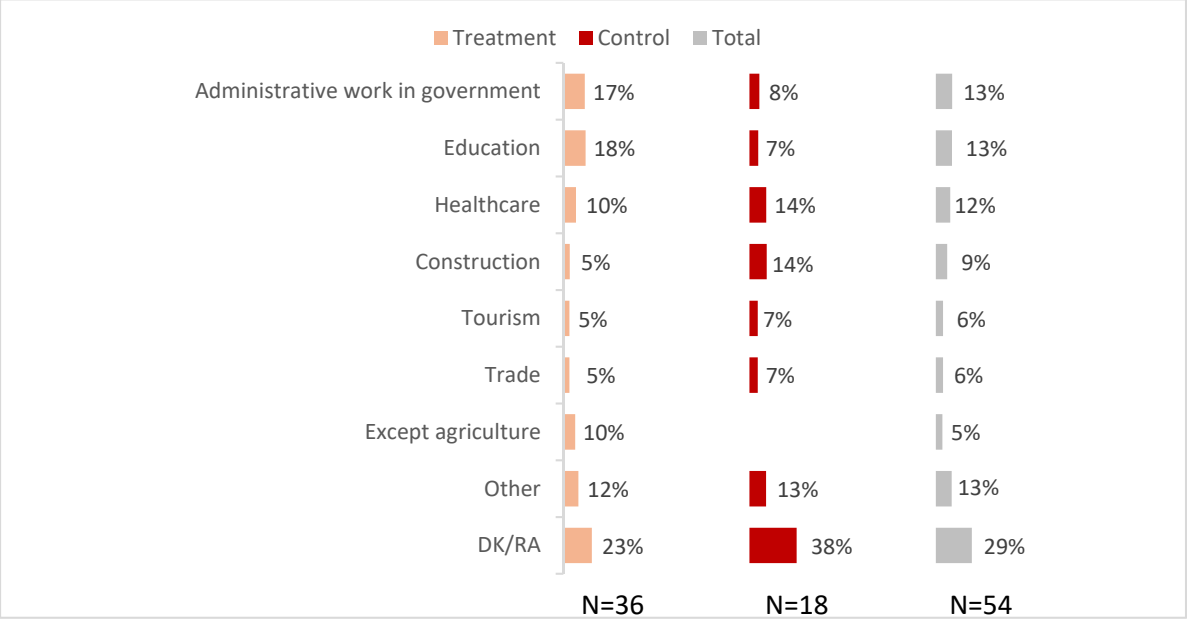

Survey respondents who indicated that they do not have a strong wish to stay in agriculture were asked **whether they wanted to work in another sector instead**. The majority of farmers stated that they wish to work in another sector (62%), whereas 38% of respondents stated that they do not.

**Figure 73. Desire to Work in Another Sector Instead of Agriculture**



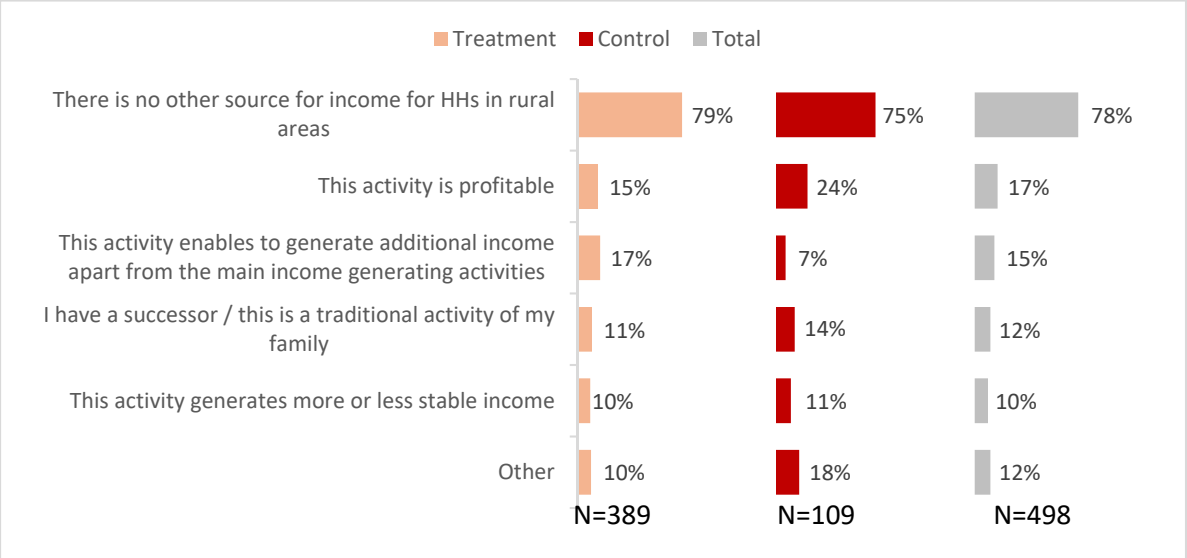

Survey respondents who indicated a desire to work in another sector instead of agriculture named such **desired sectors of employment** as administrative work (13%), education (13%), healthcare (12%), and construction (9%). Almost every third respondent (29%) could not name their desired sector of employment.

**Figure 74. Desired Sector of Employment Instead of Agriculture**



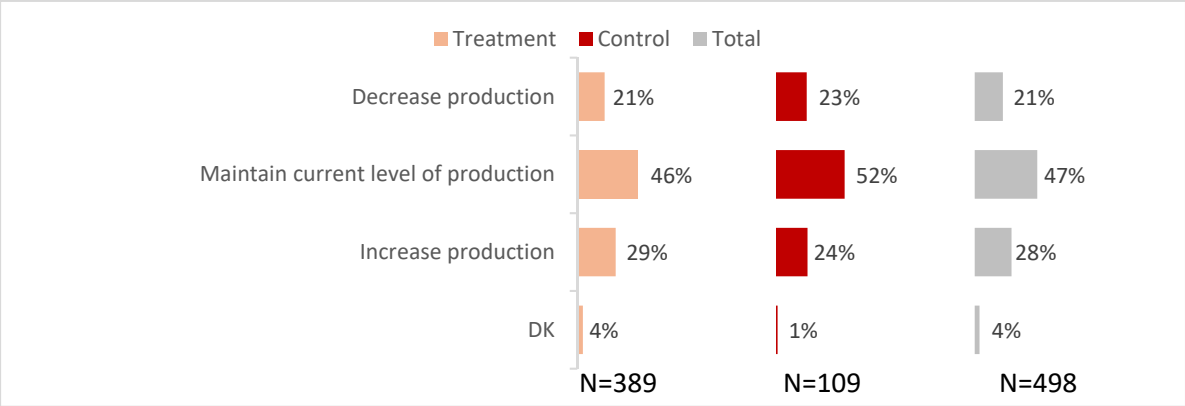

Farmers who were more inclined to stay in agriculture (indicated scores 5, 6 or 7), were asked about **the reasons for their wish to stay in agriculture**. As survey results show, the majority of respondents consider agriculture as the only income source in rural areas of Armenia (78%). Some interviewed farmers link their desire to stay in agriculture with financial issues and state that agricultural activities are profitable (17%), or at least generate additional income apart from the main HH income (15%). Interestingly, 12% of farmers mentioned the fact that agriculture is a traditional activity of their family, which will be continued by their successors.

**Figure 75. Reasons for Having the Wish to Stay in Agriculture *****



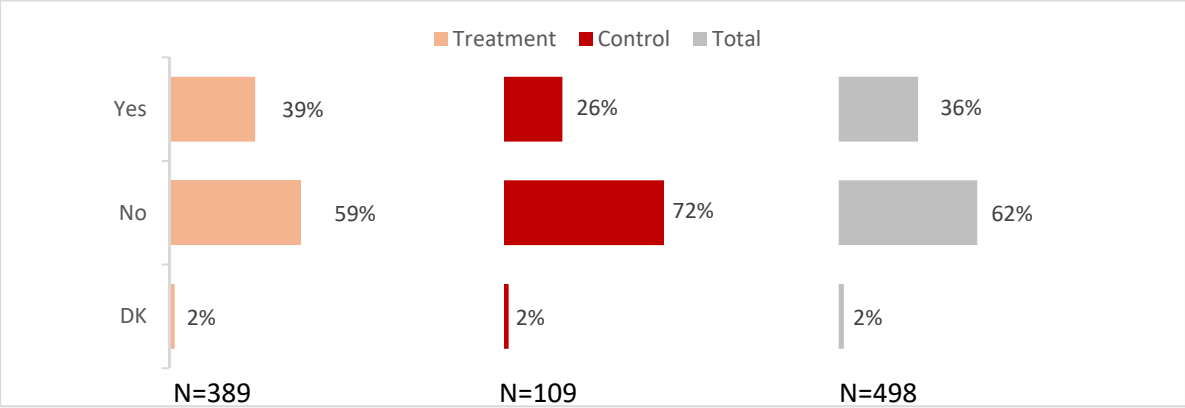
As survey results suggest, among the farmers who indicate a desire to stay in agriculture, almost every second respondent, (4%) states that they will maintain their current level of production over the next two to three years. Twenty-eight percent of farmers wish to increase their current level of production, whereas 21% are thinking about decrease of their current production.

**Figure 76. Desires Linked to the Level of Production**



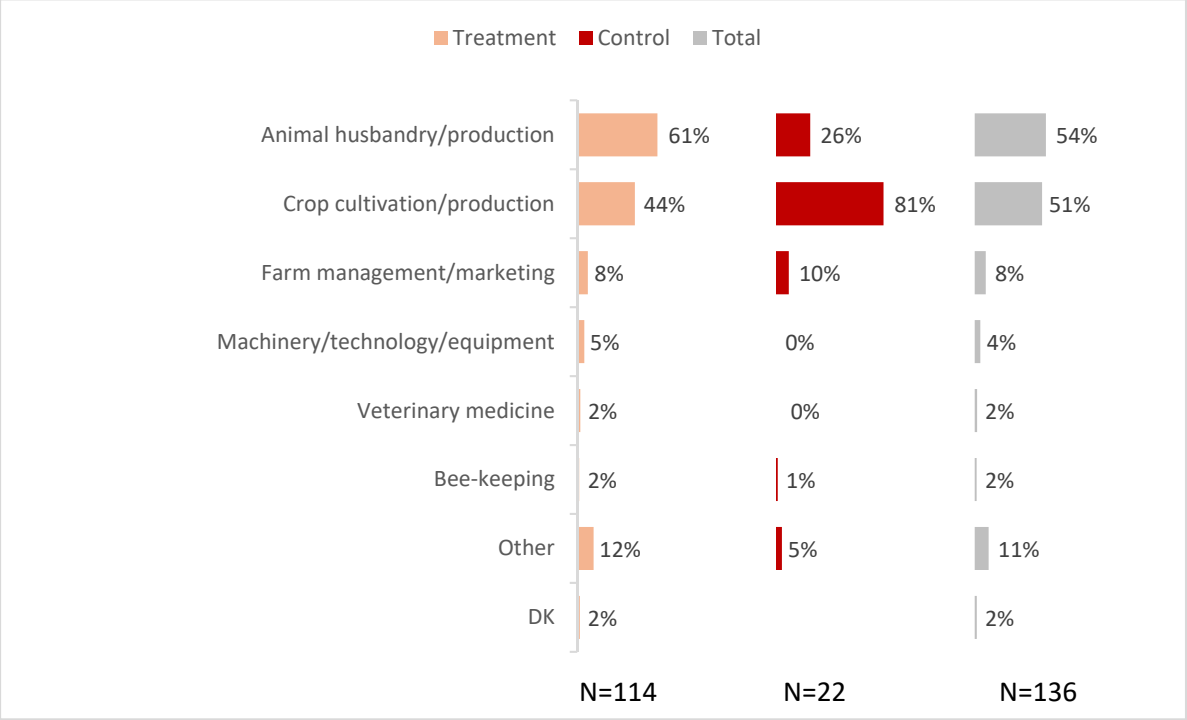

Farmers were also asked whether or not they would like to diversify their production over the next two to three years. According to this survey, 36% of farmers express the desire to diversify their production, whereas 62% are not thinking about diversification. It should be noted that a larger share of farmers from treatment settlements (39%) are willing to diversify their production than farmers from the control area (26%).

**Figure 77. Desires Linked to the Diversification of Production ****




A majority of farmers that express the wish to diversify production name animal husbandry as a desirable way to expand their agricultural activities (54%). The share of such farming HHs is significantly larger in the treatment area. One-half of inquired farmers indicated crop cultivation/production (51%)as a desirable way to diversify their agricultural activities, however this direction is more apparent in control settlements (81%).

**Figure 78. Areas of Desired Diversification**




The qualitative study provides some insight into the reasons for the **desire to stay in agriculture** or **the wish to quit agricultural activities**.

As data from FGDs suggests, willingness to stay in agriculture is often connected with the fact that agriculture is the only source of income in the rural areas of Armenia. Pursuing agricultural activities, at least on the subsistence level, is considered to be a common livelihood strategy of rural households.

It is worth mentioning that among FGD participants were farmers who backed up their willingness to stay with their passion for agriculture, which is sometimes connected with a long tradition of pursuing this activity in their families. Other times this willingness is associated with the success achieved in their agricultural activities.

Interestingly, one of the motivators to stay in agriculture or to expand agricultural activities, specifically for Meghri residents, is the popularity of horticulture products from Meghri in Armenia. As FGD participant farmers from Meghri note, fruits from Meghri are considered to be the best in Armenia, and this fact motivates them to stay in horticulture production and produce high quality agricultural products.

> *I have this feeling that occurs when I am the first – when I feel that I ate something 10 days before everyone else, or that I have something on my table and people haven't even seen it yet. This makes you feel great about your work. [Syunik, male, aged, 38]*

> *The inhabitants of Meghri are being viewed as agronomists, so this is a motivation. Being in Meghri is motivation already, it's like a brand. [Suynik, female, aged 36]*

As for the desire **to quit agricultural activities**, even though none of the farmers expressed the wish to quit their agricultural activities fully, they contemplated hypothetically about such a possibility. Some farmers noted that possible reasons for quitting agriculture might be the losses some farmers experience in their agricultural activities that might make them leave agriculture or reduce the scale of their activities. Again, remaining in the village and having no agricultural activities at all is considered to be unnatural by the farmers; it is considered that any rural resident will try to produce at least some agricultural products for family consumption.

> *Imagine a family that lives in the village and has no cattle, […] he must have at least a glass of milk for his child. [Vayots Dzor, female, aged 38]*

FGD participants also spoke about migration issues – for some rural residents, migration to Russia and working there as a manual worker, (e.g. in construction) is a common strategy that rural residents choose. While speaking about migration from the village to rural areas or to other countries, FGD participant farmers especially put stress on youth. It is noted that younger residents of villages are more inclined to migrate to urban areas and search for employment opportunities outside agriculture.

Qualitative data from the FGDs with farmers suggests that some **younger farmers** are quite enthusiastic about the agricultural activities they are pursuing and would like to maintain these activities. Mainly these are active young farmers who have seen some benefit from the agricultural activities they are involved in and who are not frustrated by the challenges existent in their daily activities. However, as mentioned above, some younger residents of rural areas choose to migrate and leave the agricultural activities of their families behind. In this regard, some older farmers note that the existence of assistance to the farming activities of rural HHs in certain cases makes the younger population interested in agriculture and able to see it as an activity worth pursuing.

> *When I told my son that there is a program like this, he was so excited, he was asking how much we got, how we got it, there would be a harvest or not – that changes childrens' psychology too, because they see that there is someone who pays attention to them, […] that there are people who support them, value them, and help them. It is very important. [Vayots Dzor, female, aged 50]*

**Factors Associated with the Intention to Stay in or Quit Agriculture - Regression Analysis**

In order to explore the factors associated with the intentions of farmers to stay in agriculture or quit their agricultural activities, a regression analysis was performed.

As regression results suggest, the variable **Suynik** has a positive and significant effect on a farmer's willingness to stay in the agricultural sector, (i.e. farmers residing in the Suynik region are more likely to stay in the agricultural sector in contrast to farmers residing in the Vayots Dzor region). Residing in the **treatment area** is positively associated with staying in the agricultural sector, (i.e. farmers living in the treatment area are more likely to stay in the agricultural sector in contrast to farmers living in the control area). Interestingly, **higher education** is negatively associated with a farmer's decision to stay in the agricultural sector. Farmers with higher education (bachelor and above) are more likely to stay in agricultural sector in contrast to farmers with a lower level of education. A **decrease in household income** is negatively associated with a farmer's decision to stay in the agricultural sector. Farmers who say that their HH income has decreased during the last two or three years are more likely to stay in the agricultural sector. **Receiving extension services/consultations** is positively associated with a farmer's decision to stay in the agricultural sector, (i.e. farmers who received extension services during the last four or five years are more likely to stay in agriculture). **Being optimistic about the prospects of dairy/meat/horticulture VCs** is positively associated with a farmer's decision to stay in the agricultural sector, (i.e. farmers who optimistically assess at least two Value Chains when asked about the prospects of dairy, meat and horticulture are more likely to stay in the agricultural sector).

While working on the regression model, the following variables were inserted into the regression and turned out to be insignificant (see table 3 below). Being male or female is not significantly associated with the likelihood to stay in or quit agriculture. Also, the age of the respondent does not show a significant association with the intention to stay or quit. Being in a particular VC is also not significantly associated with the likelihood to stay or exit agriculture.

**Table 19. Regression Results**[34]

| Effect of Various Factors of Intention to Stay or Leave Agriculture | | | | |
|---|---|---|---|---|
| **#** | **Independent Variables** | **Positive Significant Effect** | **Negative Significant Effect** | **No Significant Effect** |
| 1 | Suynik | + | | |
| 2 | Treatment | + | | |
| 3 | Higher Education | | - | |
| 4 | Household income has decreased during last 2-3 years | | - | |
| 5 | Usage of extension services/consultations | + | | |
| 6 | Optimistic Assessment of at least two VCs | + | | |

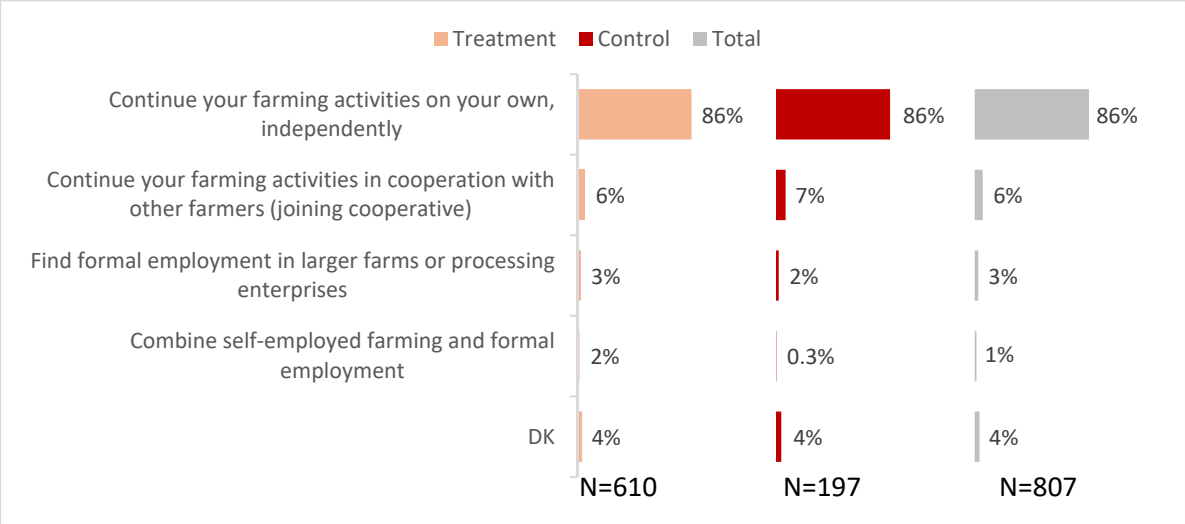
[34] For detailed regression results, see Annex #2.

| Effect of Various Factors of Intention to Stay or Leave Agriculture | | | | |
|---|---|---|---|---|
| # | Independent Variables | Positive Significant Effect | Negative Significant Effect | No Significant Effect |
| 11 | Being in Meat, Dairy or Horticulture VC | | | X |
| 12 | Gender of respondent | | | X |
| 13 | Age of respondent | | | X |
| 14 | Sales of produced products | | | X |

## Self-employment, cooperation with other farmers or formal employment

Survey respondent farmers were asked about their wishes related to **self-employment, cooperation with other farmers or formal employment**. As research results show, the vast majority of farmers wish to continue their agricultural activities independently (86%). The share of farmers who would like to continue their activities in cooperation with other farmers is rather low (six percent). Also, a small number of farmers would like to find formal employment in other farm or enterprises (three percent) or combine self-employed farming or self-employment (one percent). No major differences are evident in the attitudes of farmers in treatment and control areas on this topic.

**Figure 79. Desires Linked to Self-Employment, Cooperation or Formal Employment**




A qualitative study provides some further information about the reasons behind the small amount of farmers willing to cooperate with other farmers.

FGD participants named a **lack of information about the possible modes of cooperation**, as well as the **benefits of cooperation** as some reasons for the low level of willingness of farmers to cooperate with each other. According to some farmers, they are not aware how the cooperation could work and how this

process could be managed. In addition, some farmers note that they do not know if cooperation will yield any better results, or if it will bring any results at all. On the other hand, farmers are well aware of how self-employment works and they are very used to this activity. Therefore, moving to another mode of operation, with no guarantee of better results, does not seem reasonable.

Overall, qualitative data shows that for farmers, the most comfortable way of operation is self-employment, since they are responsible for their own actions and are not dependent on others. Their failure or their success is in their own hands, and even if they will have the opportunity to receive more benefit through cooperation, they are not ready to risk their scarce resources. One possible reason for that could be that smallholder farmers are solely dependent on the income received from agriculture, and losing it would mean being left without any income at all.

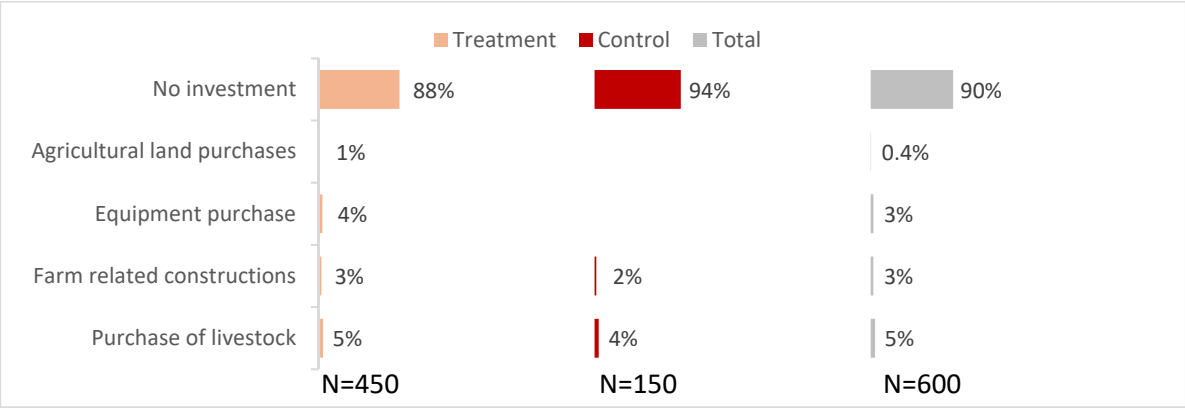
> *There is no other work that would generate enough money. Why would we work for somebody else and depend on them? We would rather go to our gardens, work, and get our income. [Syunik, male, aged 30]*

### 9.1.2. Investment Experience and Intentions to Invest in the Future

Survey participant farmers were asked about their agricultural investments during the agricultural season 2016. As survey results show, a majority of farmers in Armenia did not make any investments in their farms (90%).

As for the made investments, most farmers invested in purchasing livestock (5%). Some of them purchased machinery (3%) or agricultural land (0.4%).

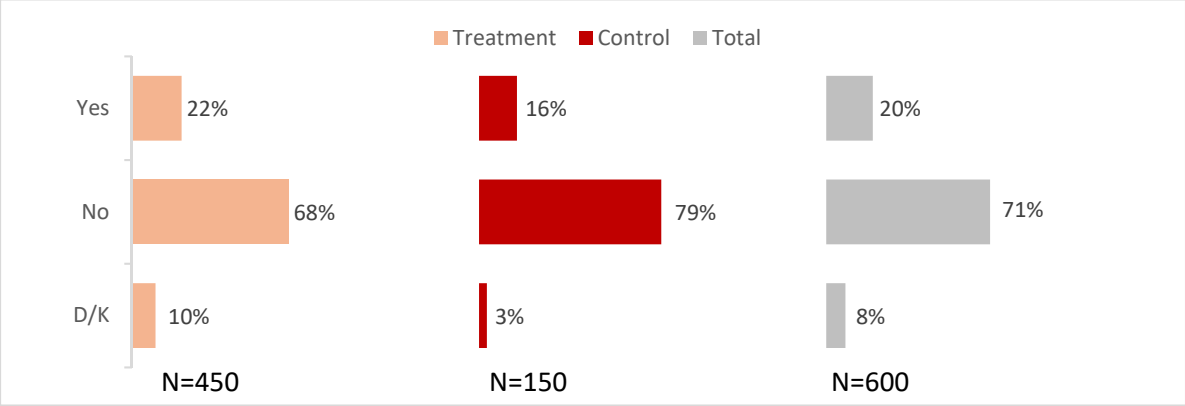
**Figure 80. Investment in the Farm in 2016**




As for the intentions related to investment in farming activities, survey results show that 20% of farmers are planning to make investments in their farm, whereas a majority of respondents (71%) do not intend

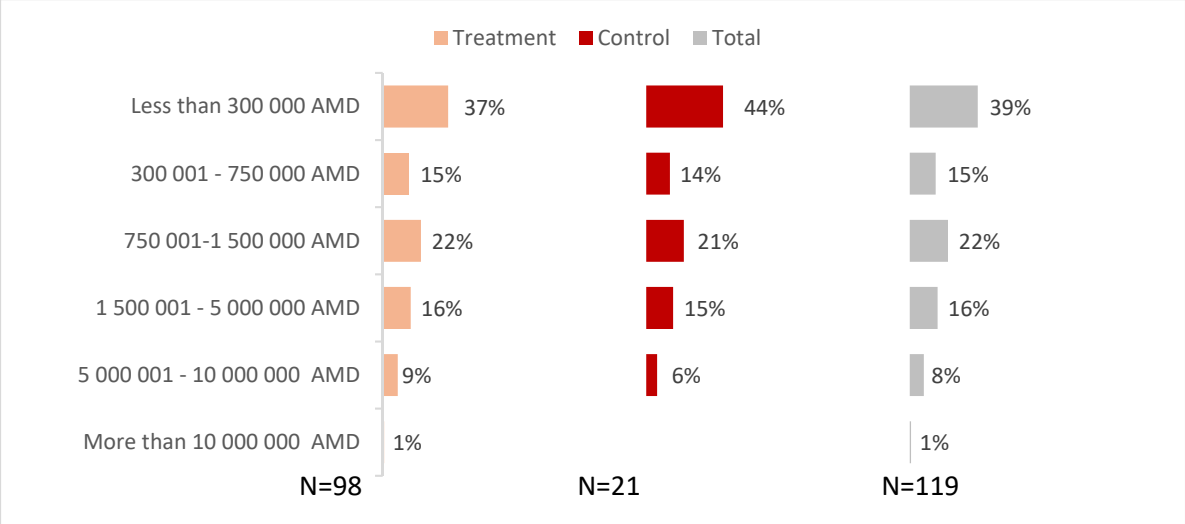
to invest in the upcoming two or three years. Some respondents are not sure about their intentions related to investment (eight percent). A comparison of treatment and control groups shows that a larger share of farmers in the treatment area intend to invest in their farms over the next two or three years (22%), compared to farmers in control settlements (16%).

**Figure 81. Intentions to Invest in the next 2-3 Years *****




Among those farmers who intend to invest in the upcoming couple of years, 39% plan to invest 300,000 AMD or less. More farmers in the control area have indicated the desire to invest less than 300,000 AMD in their agricultural activities (44%), compared to farmers from the treatment area (37%).

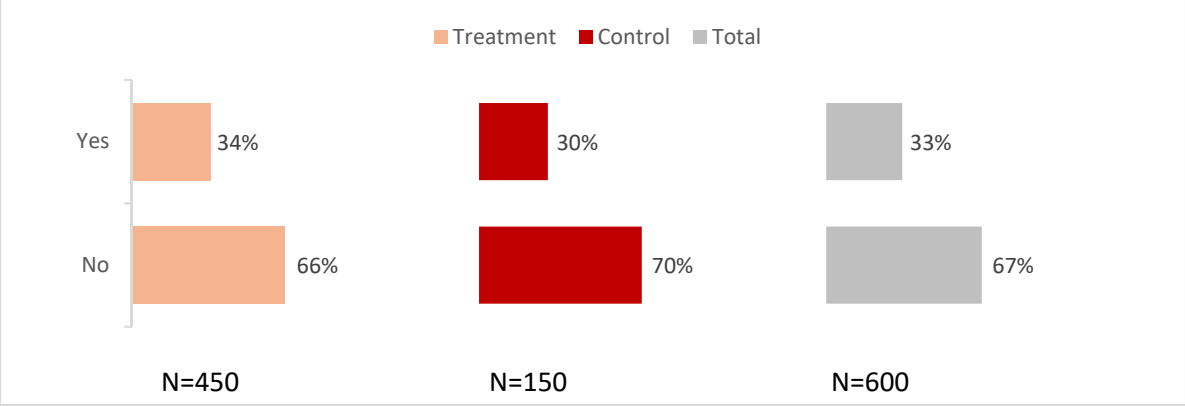
**Figure 82. Amounts of Intended Investments**



### 9.1.3. Experience Obtaining Loans and Intentions to Take a Loan in the Future

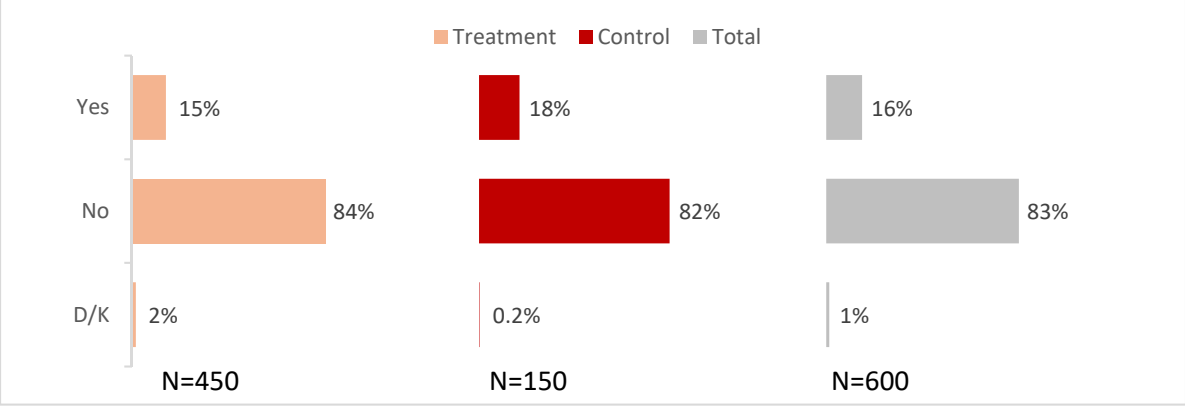
Survey respondents were asked about their experience obtaining loans during 2016. As evident from the survey, 33% of farmers have had a loan from a bank, a micro-finance organization, a savings and credit association, or a government or donor sponsored credit program in 2016.

**Figure 83. Loans in 2016**




As for intentions related to obtaining a loan, the majority of farmers do not intend to obtain a loan in 2017 (83%), whereas 16% of farmers are planning to apply for a loan to finance their agricultural activities in 2017. No substantial difference is evident in treatment and control areas.

**Figure 84. Intentions to Obtain a Loan in 2017**



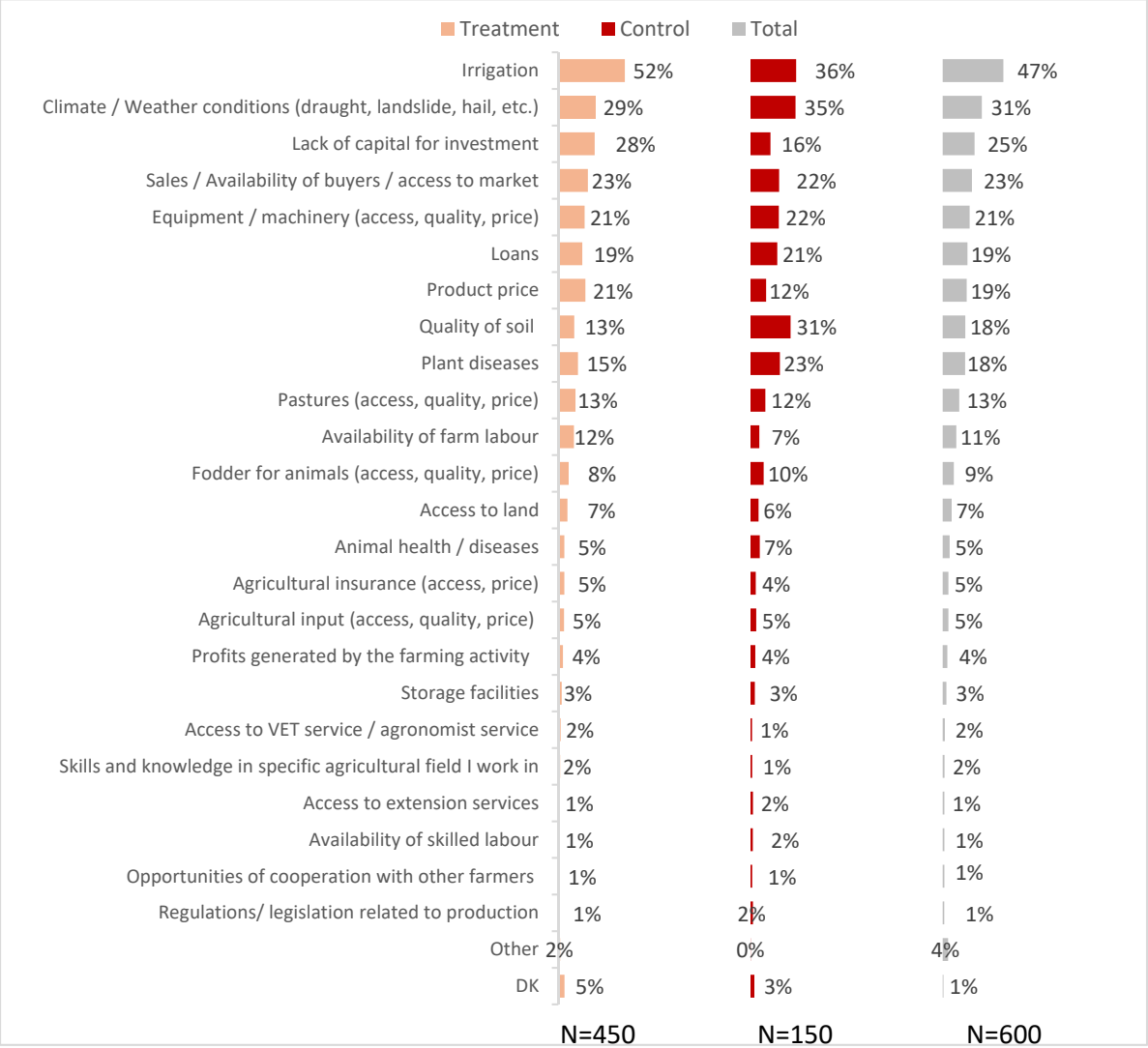
### 9.1.4. Challenges of Agricultural Activities

One of the topics of inquiry in the scope of the study was the **challenges related to the agricultural activities** of farmers. Farmers were questioned about the major challenges that have an impact on their farming activities, and hence might have an influence on their intentions to stay in or quit agriculture.

Surveyed farmers assessed various challenges on a 7-point scale, where a score of 1 indicated that the particular issue is not problematic and a score of 7 meant that the issue represents a serious challenge. As survey results show, among the top seven challenges with the highest average scores are (1) climate/weather conditions (5.15), (2) irrigation (4.89), (3) access to markets (4.71), (4) equipment/machinery (4.67), (5) loans (4.41), (6) quality of soil (4.35), and (7) lack of capital investment (4.34). Access to extension services (1.64), regulations/legislation related to production (1.68), and existing opportunities of cooperation with other farmers (1.69) can be considered as the least problematic issues based on comparatively lower average scores.

Survey participant farmers were also asked which problem could be solved that would be most important for their farm operations. As survey results show, among the top five problems are (1) irrigation, (2) problems caused by climate/weather conditions, (3) lack of capital for investment, (4) access to markets, and (5) equipment/machinery. As for treatment and control areas, farmers in treatment as well as in control settlements name irrigation (treatment - 52%, control - 36%), climate/weather conditions (treatment - 29%, control - 35%), access to markets (treatment - 23%, control - 22%), and equipment/machinery (treatment - 21%, control - 22%) among the top challenges.

**Figure 85. Important Challenges/Problems *****




In order to see how farmers in different VCs experience different types of challenges, a factor analysis was performed.

With help of a factor analysis, a long list of challenges evaluated by the farmers were grouped into six main factors: challenges associated with (1) Financial Resources (FR), (2) Diseases (D), (3) Sales (S), Human Resources (HR), and Protection from extreme weather conditions. The table below presents the extracted factors and corresponding factor loadings.

**Table 20. Challenges in Agriculture – Factor Analysis**

| Rotated Component Matrix[a] | | | | | | |
|---|---|---|---|---|---|---|
| | Component | | | | | |
| | **Financial Resources (FR)** | **Diseases (D)** | **Sales (S)** | **Human Resources (HR)** | **Animal Nutrition a(AN)** | **Protection from extreme weather / Resilience** |
| Agricultural insurance (access, price) | **.748** | | | | | |
| Profits generated by the farming activity to put into investment | **.714** | | | | | |
| Loans | **.683** | | | | | |
| Access to extension services | **.648** | | | | | |
| Animal health / diseases | | **.823** | | | | |
| Access to VET service / agronomist service | | **.778** | | | | |
| Plant diseases | | **.736** | | | | |
| Product price | | | **.741** | | | |
| Sales / Availability of buyers / access to market | | | **.730** | | | |
| Agricultural input (access, quality, price) | | | **.699** | | | |
| Availability of farm labour | | | | **.877** | | |
| Availability of skilled labour | | | | **.841** | | |
| Pastures (access, quality, price) | | | | | **.853** | |
| Fodder for animals (access, quality, price) | | | | | **.821** | |
| Climate / Weather conditions (draught, landslide, hail, heavy rain, etc.) | | | | | | **.745** |
| Lack of capital for investment | | | | | | **.606** |

An analysis of the above-mentioned six factors by different VCs shows that for the farmers in the meat VC, the most challenging among the derived factors are **financial resources**, **sales** and **animal nutrition**. For the farmers in the dairy VC, **financial resources**, **sales, human resources,** and **animal nutrition** present major challenges. For the farmers in the horticulture VC, **plant diseases, sales,** as well as **protection from extreme weather conditions** proved to be the most challenging issues.

**Table 21. Importance of Different Challenges by VCs[35] (Factor Means)**

| | Meat | |
|---|---|---|
| | 0 | 1 |
| Financial Resources (FR) | -.026 | .104 |
| Diseases/Aniaml Health | .023 | -.093 |
| Sales | -.022 | .089 |
| Human Resources (HR | .024 | -.098 |
| Animal Nutrition (AN) | -.018 | .075 |
| Protection from extreme weather/Resilience | .038 | -.155 |

| | Dairy | |
|---|---|---|
| | 0 | 1 |
| Financial Resources (FR) | -.389 | .131 |
| Diseases/Aniaml Health | .356 | -.119 |
| Sales | -.111 | .037 |
| Human Resources (HR | -.151 | .051 |
| Animal Nutrition (AN) | -.032 | .011 |
| Protection from extreme weather/Resilience | .273 | -.092 |

| | Horticulture | |
|---|---|---|
| | 0 | 1 |
| Financial Resources (FR) | -.032 | .001 |
| Diseases/Aniaml Health | -.451 | .007 |
| Sales | -.357 | .006 |
| Human Resources (HR | .065 | -.001 |
| Animal Nutrition (AN) | .269 | -.004 |
| Protection from extreme weather/Resilience | -.730 | .012 |

Qualitative information from the FGDs provides additional data on the challenges faced by farmers.

**Irrigation** is named as a challenge by FGD participant farmers involved in the horticulture VC. Farmers also noted problems related to water supply and emphasized the need for drip-irrigation due to a lack of water.

**Access to markets** and the possibility to export is mentioned as a challenge by some FGD participant farmers. As some farmers note, currently, they might end up with excess amounts of harvested fruits, since sales present a challenge. In the case of stable sales, farmers express a willingness to invest more in their farms and expand the scale of their agricultural activities. While speaking about market access, some

[35] A factor mean score above zero indicates that a particular challenge is problematic for the farmers. A factor mean score below zero means that a particular challenge is not problematic for the farmers.

farmers mentioned their long **distance from the capital**, which is considered to be the best market for their products. Due to the inability to transport their goods to markets themselves, farmers are forced to sell their products to buyers at the price they are offered.

While speaking about market access and sales, farmers emphasized the **low price** of products offered by buyers. In this regard, some farmers involved in agriculture mentioned the competition of fruits imported from neighbouring countries (e.g. kinglet fruits from Georgia), which are sold under the name of Armenian fruits and affect the selling price of harvested fruits. As some farmers note, sales of products are complicated by the improper practice of the sale of fruits, which implies buying a small amount of quality fruits and mixing them with lower quality fruits. Such a practice also negatively affects the price of fruits produced by the farmers. Interestingly, some farmers mention the practice of mixing low quality fruits of their neighbours with their own good quality fruits in order to assist their neighbours. As some farmers state, sometimes farmers take such risks in order to help their friends.

Some farmers involved in the horticulture VC emphasize the **availability of fertilizers** as a challenge, which ensures a high marketable quality of fruits. FGD participant farmers note that they pay very special attention to the visual appearance of fruits in order to make them compliant with market requirements. The importance of fertilizers is also emphasized in terms of the production of a necessary amount of marketable fruits.

> *First of all, to export our product, we don't have that quality. I am growing pomegranate, but we don't have the fertilizers when pomegranate becomes pocked, to give them a high quality and quantity. [Suynik, male, aged 30]*
>
> *If we know that there is stable consumption, we will do anything to provide quality and quantity, we will invest. Now, we throw away the remaining harvest, and that's why we don't invest, but when the factory works and offers good prices and when the factory does its own work, then we shall do ours as well. [Suynik, male, aged 37]*

FGD participant farmers involved in the horticulture VC emphasized a problem related to **storage facilities**. According to some farmers, having storage could be beneficial for them because they could store fruits and sell them off-season for a better price. As FGD participant farmers note, due to the absence of storage, farmers producing horticulture products are rushing to sell their harvest as soon as possible, so the products do not spoil. Therefore, they tend to agree to sell for a lower price, which negatively affects their income.

> *I think that there should be an organization that would only deal with storage problems, and our producer in this case will not think about sales problems […] currently we produce and think about fast sales. [Suynik, female, aged 52]*

While speaking about their agricultural activities and associated risks, farmers emphasized the importance of **agricultural insurance**. Acquiring insurance is challenging for farmers due to its high price. In addition, while speaking about risks, some farmers involved in the horticulture VC noted the need of an **anti-hail system**, the absence of which creates a serious danger to their harvest. That is why for many farmers, **weather conditions** represent a serious threat.

FGD participant farmers involved in meat and dairy VCs emphasized problems related to **fodder for animals**. As some farmers note, **access to land** presents a problem, therefore they do not have the possibility to produce enough fodder for their animals.

By farmers involved in the horticulture VC in Meghri, it was noted that **access to land**, in particular, a small amount of land owned by the farmers is a challenge for their agricultural activities, especially for the farmers who would like to expand.

> *That is why if someone has 5000 $m^2$ of land it is considered a huge territory, […] if in the Ararat valley, people have 10 hectares of land, here they have only 1 hectare of land. [Syunik, male, aged 38]*

Some farmers name the availability of **technical equipment** as a challenge. Farmers note that an insufficient amount of equipment is available and they have to wait for their turn to use the equipment quite often. In the case of machinery, the high price for rent was also noted as a problem by FGD participant farmers. In addition, some farmers noted that in some instances, it was difficult to find the appropriate machinery, which would be suitable to enter their rather smaller plots. Some farmers also note that they have no access to modern equipment and they are forced to use rather outdated equipment.

While speaking about challenges associated with **credit**, high interest rates were mentioned by FGD participants. Some farmers noted the terms of loans as a problem. In particular, according to farmers, the nature of horticulture cultivation implies having seasonal, not a monthly income, which makes it difficult for farmers to pay their debt on a monthly basis. Also, some farmers named the small amounts of credits they receive, which is considered to slow down their development.

> *I get credit every two years, but the problem is that they don't give a large sum, I asked for five million, and they give one. That's why our work goes slowly. [Syunik, male, aged 48]*

Qualitative findings from the FGD with farmers suggest that some farmers place high value on knowledge and skills in agriculture. During the FGDs, some farmers mentioned trainings organized for farmers concerning different topics, which are assessed as very useful. Obtaining professional knowledge about agricultural activities, as well as farm management through various trainings is considered to be helpful in terms of overcoming daily challenges as well as useful in terms of increasing income from agriculture.

It is worth emphasizing that farmers link the expansion opportunities of their farms with the need for knowledge in agriculture. Obtaining additional knowledge and skills is considered important by the farmers who are willing to expand their agricultural activities. For instance, some farmers noted that knowledge on dry fruit production was important for them in terms of launching this activity.

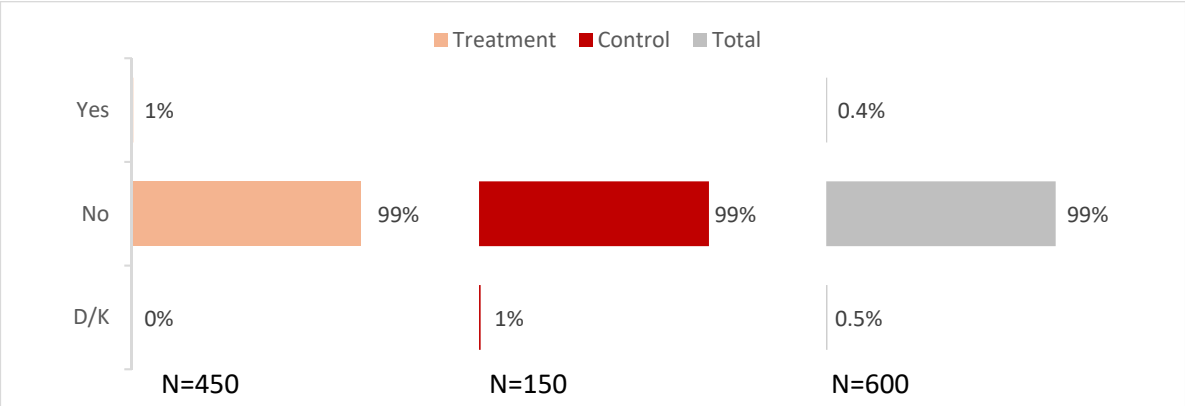
> *The difference is that before it was very hard. We had no knowledge, and we were doing everything by intuition. Now we have knowledge, we use veterinarians' services, we calculate everything, and income has increased. [Vayots Dzor, female, aged 37]*
>
> *I've been keeping cows for already 15 years. I was ashamed of asking veterinarian about breastfeeding during giving birth, but after last year's course, everything was clear. [Vayots Dzor, female, aged 49]*

## 9.2. Contract Farming

One of the topics of inquiry in the scope of this study was contract farming. In particular, the experience of contract farming by the farmers, their wish to engage, as well as the perceived advantages and disadvantages of contract farming.

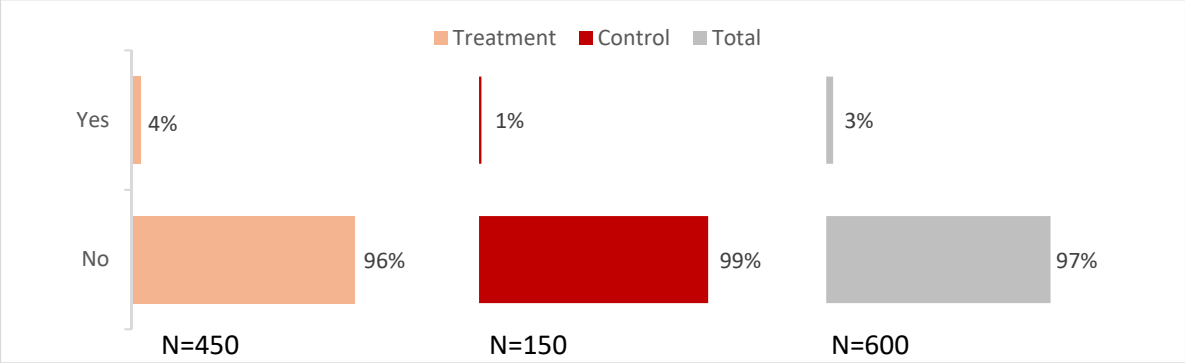
As research results show, the share of farmers involved in contract farming is rather low (0.4%).

**Figure 86. Involvement in Contract Farming**




As for the wish to engage in contract farming or to continue contract farming in the future, only a few farmers indicated a positive reply (three percent).

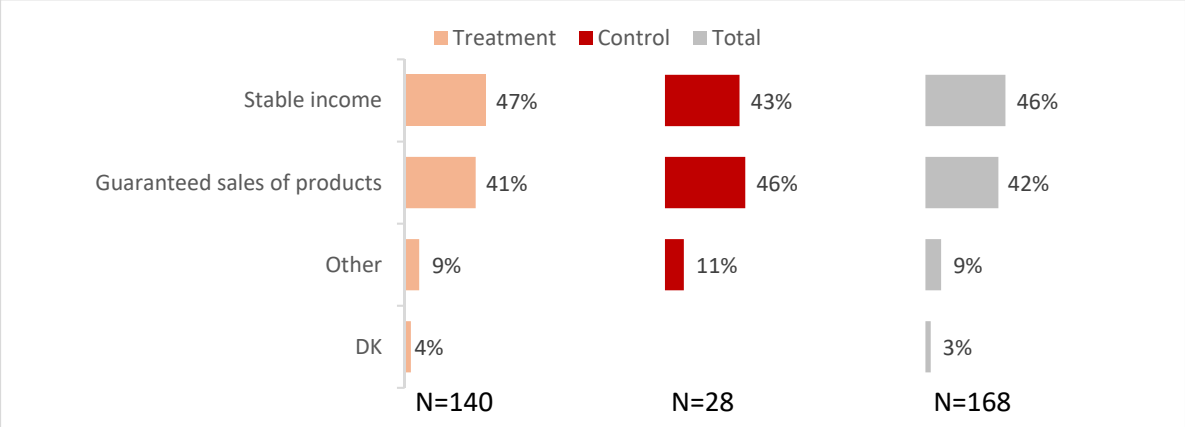
**Figure 87. Desire to get Involved/Continue Involvement in Contract Farming**




Farmers were also asked about the reasons behind their wish to engage/continue or not to engage/continue contract farming.

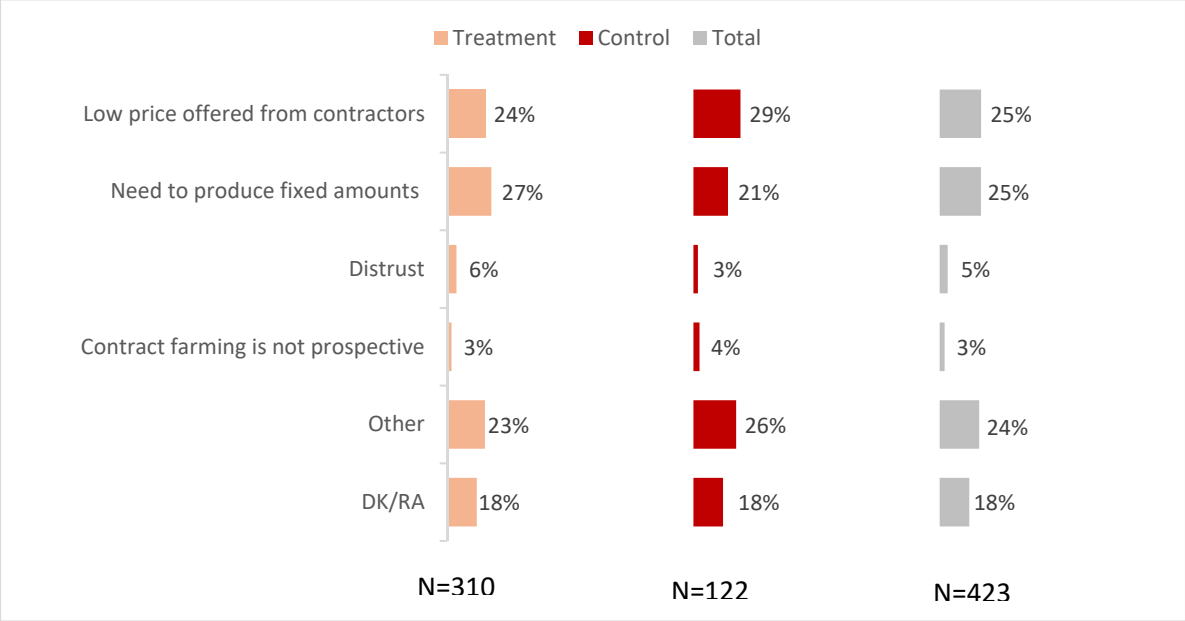
According to the survey results, perceived advantages of contract farming the possibility to have a stable income (46%) and the guaranteed sale of products (42%).

**Figure 88. Reasons for Desire to Get Involved in Contract Farming**




The farmers who did not express a wish to get involved in contract farming named the need to produce fixed amounts of products (25%) and low prices of products offered by contractors (25%) as disadvantages. Interestingly, 18% of respondents could not provide any particular reason for the absence of a desire to get involved in contract farming.

**Figure 89. Reasons for the Absence of a Desire to Get Involved in Contract Farming*****




Qualitative data from the focus groups provides some additional insight into the opinions of farmers regarding contract farming.

As evident from the FG discussions, some farmers' negative attitudes towards contract farming is based on the **negative experience** of contracting practices experienced by themselves or their acquaintances. As one of the farmers notes, there are cases in which the farmer submits products according to the contract terms but does not receive payment. Such experiences negatively affect the willingness of farmers to get involved in contract farming, since it creates **distrust** in potential contractors. In this regard, some respondents note that the farmer should be very cautious while considering to get involved in the contracting practice, to protect himself/herself "from being fooled". Such statements once again show the existence of distrust among farmers.

> *The terms of the contract are done not correctly. That's why, for example, the farmer is submitting the meat with a contract, but the day is coming and he can't take his money. [Vayots Dzor, female, aged 30]*

While discussing the **contract farming** practice, several farmers noted the **low price of products** offered by the buyers. **The fluctuation of prices** of products (e.g. milk or fruits) by season is also named as a constraint by some farmers.

As qualitative data from FGDs suggests, one further cause of the reluctance of farmers in terms of involvement in contract farming is related to their **fear not to be able to deliver the necessary amount of products** required by the contract. Some farmers note that for them, delivering fixed amounts **systematically** might represent a challenge, while for some farmers, producing products according to the

**quality requirements** might be challenging. For instance, as some farmers in the dairy VC note, the fat content of milk is one of the quality criteria for milk collection centers, and they recall instances in which buyers refused to buy milk from the farmers. It is assumed that in case of a contracting practice such happenings could be more problematic for the farmers.

> *The cons [of contract farming] are when suddenly you realize that you are unable to give the amount that they demand. [Suynik, female, aged 40]*

As qualitative data suggests, some farmers consider **being bound by contract terms** as less desirable. As these farmers note, nowadays, while operating without a contract, they have the freedom to produce and sell quantities according to their wish. Being responsible for the delivery of a fixed amount is considered to be a certain burden by some farmers.

> *That maybe one day I'll deliver, one day not, or I'll not deliver if I want, but you have to deliver by the contract. [Syunik, female, aged 42]*

Some farmers noted the need to **update the contract terms** every year. They note that contracts should not be signed for a long period of time because market changes and prices fluctuate, which might negatively affect the farmers who have fixed contracts for several years that do not consider price fluctuations.

Some FGD participants mentioned the **advantages** of contracting practices. As an advantage of contract farming, farmers name **guaranteed sales** of their produced products. Having guaranteed sales is considered as a motivation for farmers to work harder and make more investments in their agricultural activities. As narratives of FGD participant farmers revealed, having guaranteed sales makes farmers' work "more meaningful" and creates the feeling that farmers' efforts will not be wasted for nothing. Some FGD participant farmers state that it is quite difficult for the farmers to take care of the sales and ensure realization of their produced products at the same time. Not having to worry about the sale of products is considered the most comfortable way of operation, since the farmer can concentrate on production and devote all time and resources to produce high quality agricultural products.

> *We should do our thing, we can't search for markets and then take the products there. […] [if we will have a contract] we will do our work better. [Syunik, male, aged 37]*
>
> *[In case of contract farming] we will know what are we working for, and we will work hard to have a result. [Syunik, male, aged 37]*

While discussing contracting practices and sales of products, some FGD participants mentioned that some buyers can offer higher prices when compared to the contractors, however, in such cases the problem represents the instability of such proposals. Therefore, having **stable sales** based on a contract is preferred over the possibility of infrequent sales by some farmers.

Having a contract is considered especially necessary **while making an investment in the farm**. Some farmers have the negative experience of their investment going to waste, due to the bankruptcy of a potential buyer. As an FGD participant farmer notes, having a contract could have protected him and enabled to get compensation for the losses.

> *I had 100 dairy goats six years ago, we were thinking about enlarging, there was an organization who asked to buy our milk. There was no contract, the factory was closed, and all of the milk stayed with me, as goats. If I had a contract, I could ask for my money back. [Vayots Dzor, male, aged 28]*

In addition to all of the above-mentioned pros and cons, it should be mentioned that some farmers have a long history of cooperation with the same buyers without a contract, and that they are satisfied with this cooperation. Having such positive cooperation experience makes some farmers believe that contract farming is not something that they require, since they operate without a contract without having any major challenges.

> *For example, I give milk, and my companion gives me money, but there is no contract between us. I've been working with him for two years. [Vayots Dzor, male, aged 45]*

## 9.3. Description/Characteristics of Farmers and their Farming Households

In the scope of the survey, a total of 600 farming HHs were interviewed in Armenia. The respondent of the survey was the most informed household member aged 18 or above. Some data, however, was collected not only on the individual, but rather on the HH level. Correspondingly, in total information was collected on 2,752 HH members. Among those were 1,342 females and 1,410 males.

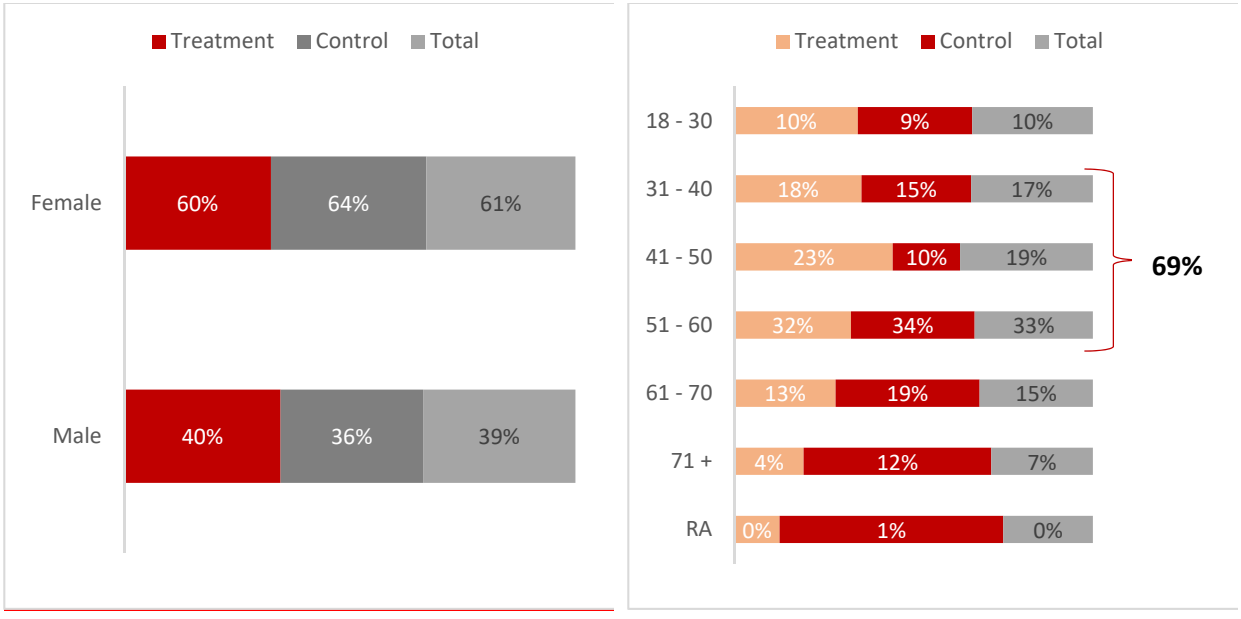
Information about the farmers and their farming HHs is reviewed below. Firstly, main HH demographics are presented, followed by a description of the agricultural activities of farming HHs. Finally, information about attended trainings and used extension services is presented.

### 9.1.1. Demographics

Among survey respondent farmers, 61% are females and 39% are males. Ten percent of interviewed farmers are aged 18-30, whereas, 69% of respondents fall into the age category 31-60.

As survey results show, the average size of the HH is 4.59 members (4.73 in treatment and 4.15 in control settlements). The gender of the HH members is distributed rather equally (49% female, 51% male). The age of the HH members is also distributed more or less equally among different age categories. The average age of HH members is 37-39 years for treatment as well as control settlements.

**Figure 90. Gender and Age Distribution of Survey Respondents (gender / age***)**

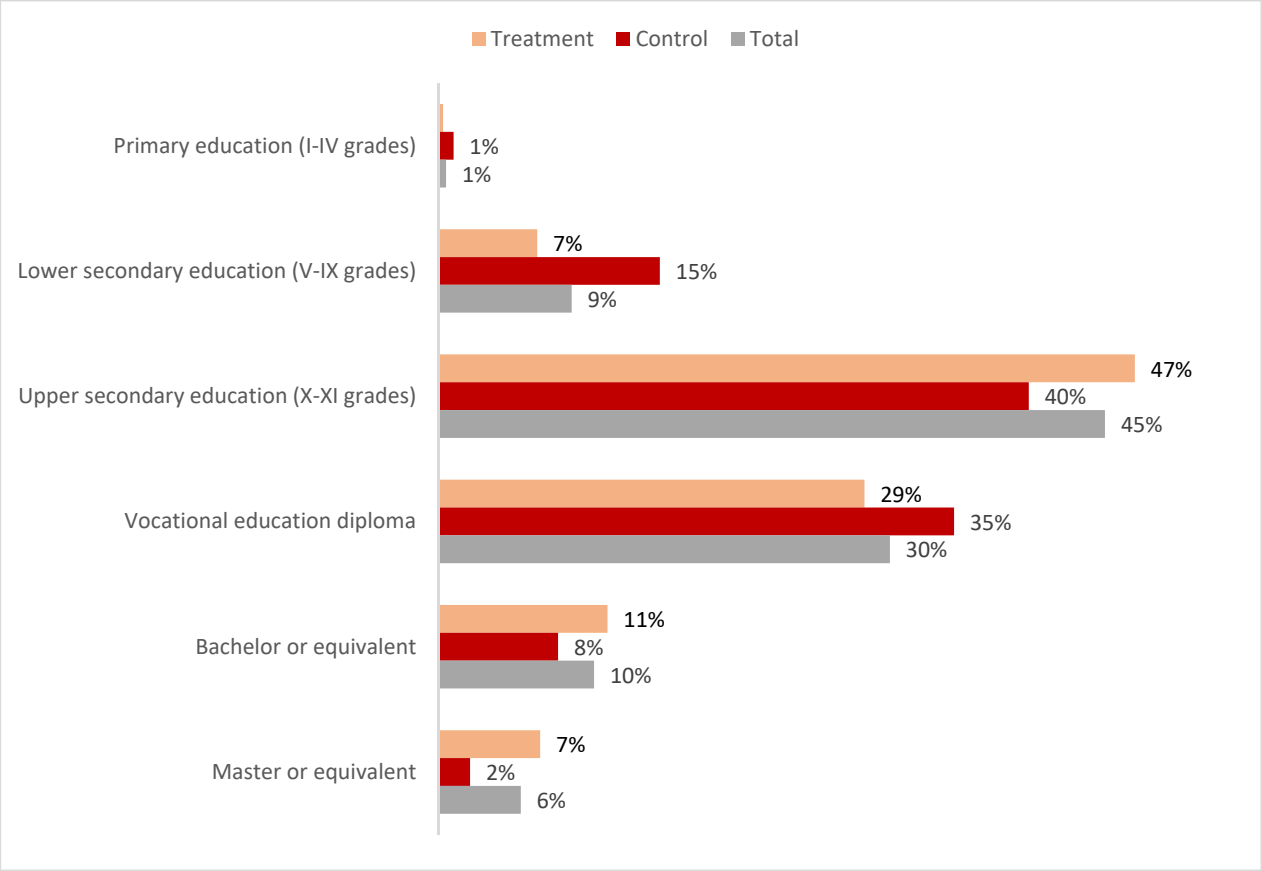



*N=600*

Almost all surveyed HHs are Armenians (99.8%). As for the respondents, all interviewed respondents are Armenian.

The largest share of respondents has completed secondary education (45%), both in treatment (47%) and control (40%) areas. Almost every third respondent farmer has vocational education (30%). As for the HH members of the farmers, survey results show that among HH members aged 18+, the largest share has completed secondary education (50%). Almost every fifth HH member has vocational education (19%). No substantial differences are evident between treatment and control settlements in this regard.

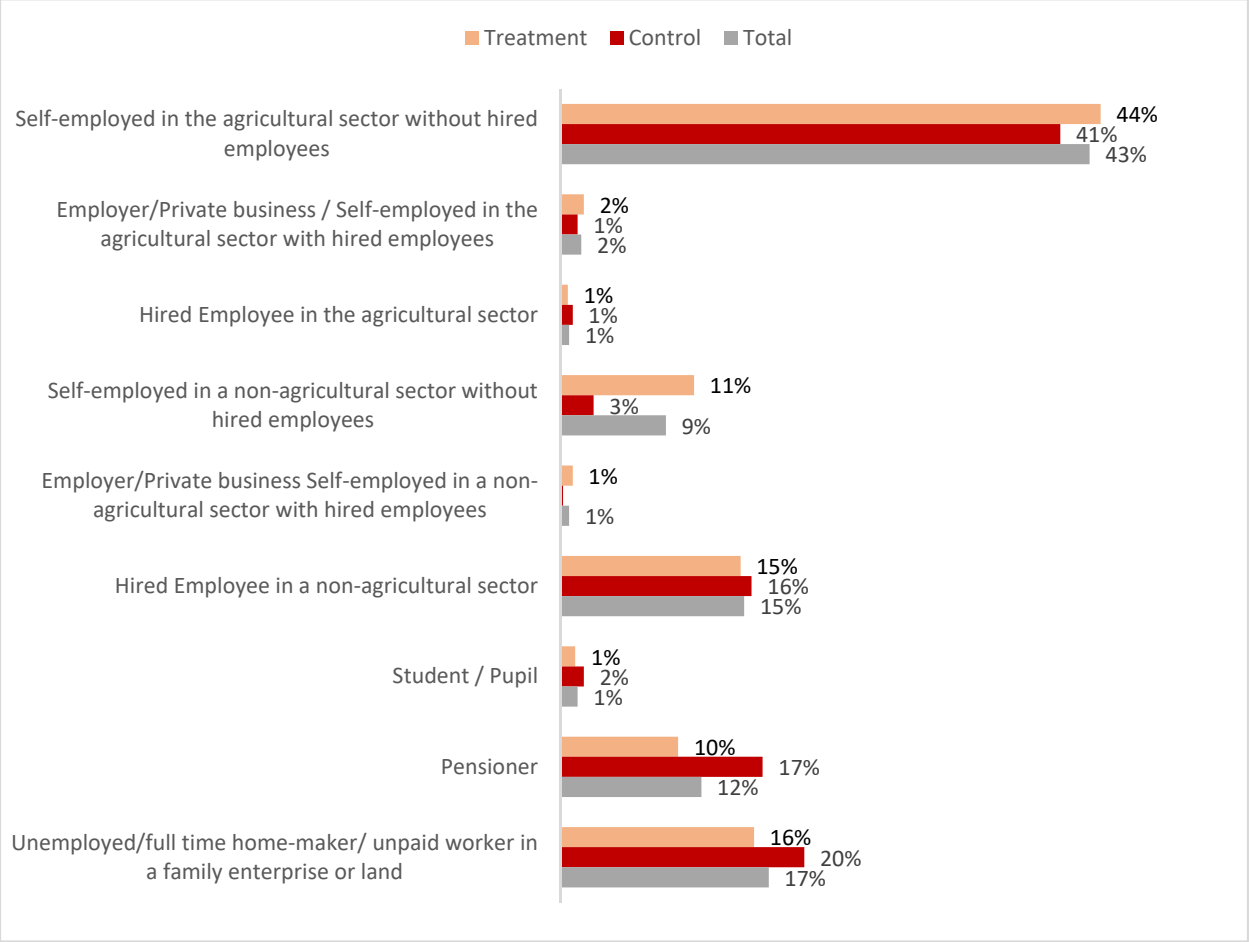
**Figure 91. Education of Respondents*****




*N=600*

As their primary occupation, most respondents indicate **self-employment in agriculture** without hired employees (43%). A quarter of the members of interviewed HHs are **self-employed in the agricultural sector** without hired employees (25%). The same trend is evident in treatment as well as in control settlements.

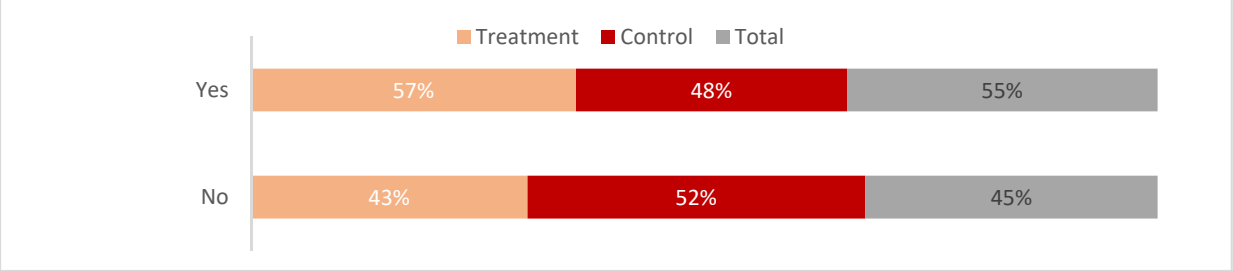
**Figure 92. Primary Occupation of Respondents*****



### 9.1.2. Agricultural Activities of Farming Households

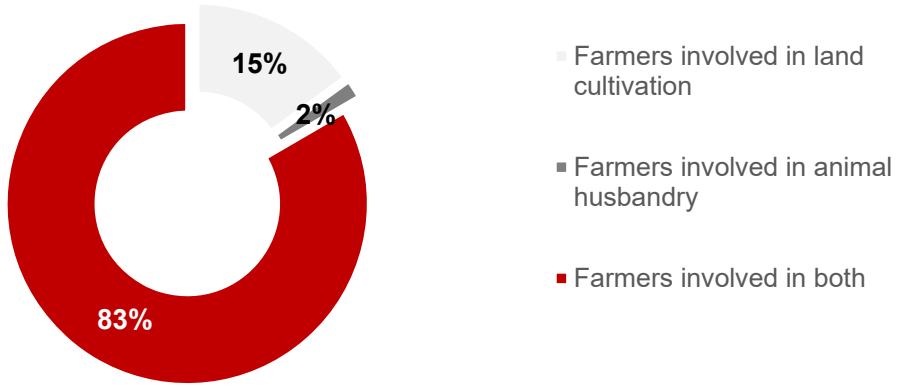
As survey results show, a majority of the HH members are involved in the agricultural activities of the HH (55%). The share of HH members involved in the agricultural activities of the HH is larger in treatment areas (57%) than in control areas (48%).

**Figure 93. Involvement of HH Members in the Agricultural Activities of the Farming HH*****




As research results demonstrate, the vast majority of interviewed farming HHs surveyed in Armenia is involved in animal husbandry as well as in crop production (83%). Among survey participant farmers, 15% are involved in land cultivation only, whereas two percent of farmers are involved only in animal husbandry.

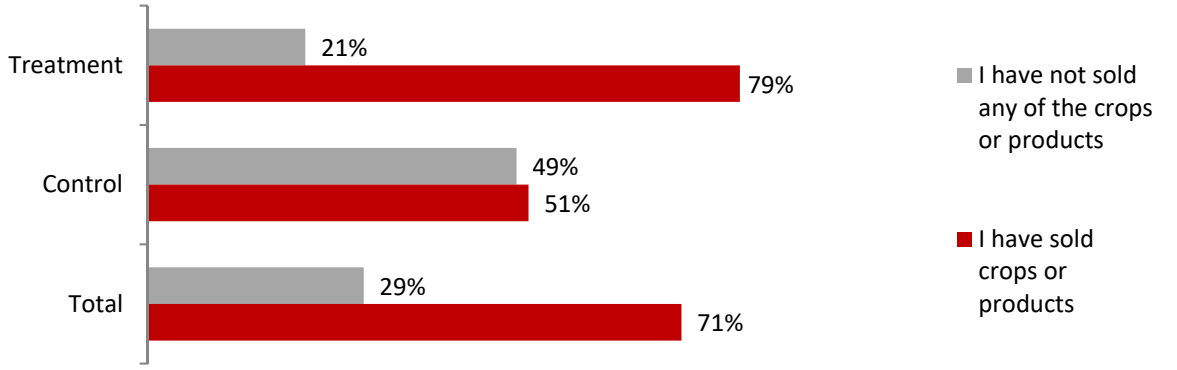
**Figure 94. Agricultural Activities of Farming Households**




Survey participant farmers were asked about the sale of agricultural products they harvested or processed in 2016.

Overall, according to the survey results, 29% of farming HHs state that they have not sold anything from the agricultural crops or products they have produced. Correspondingly, the vast majority of survey participant farmers have sold some of their harvest or products. The share of farmers who report sales is higher in treatment settlements (79%), than in control settlements (51%).

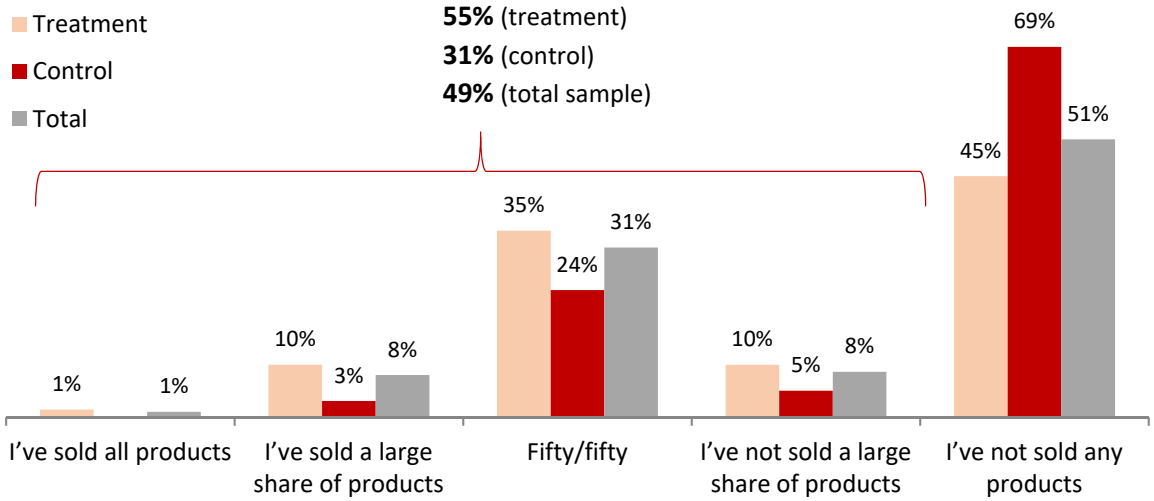
**Figure 95. Sale of Crops or Produced Products by Faming HHs*****




*N=600*

As evident from the survey data, half of the interviewed farmers have sold some of their crops without processing (49%). A comparison of treatment and control settlements shows that the sale of crops without processing is higher in treatment settlements - the share of farmers who state that they have not sold anything from their harvest is much higher in control settlements (69%) than in treatment settlements (45%).

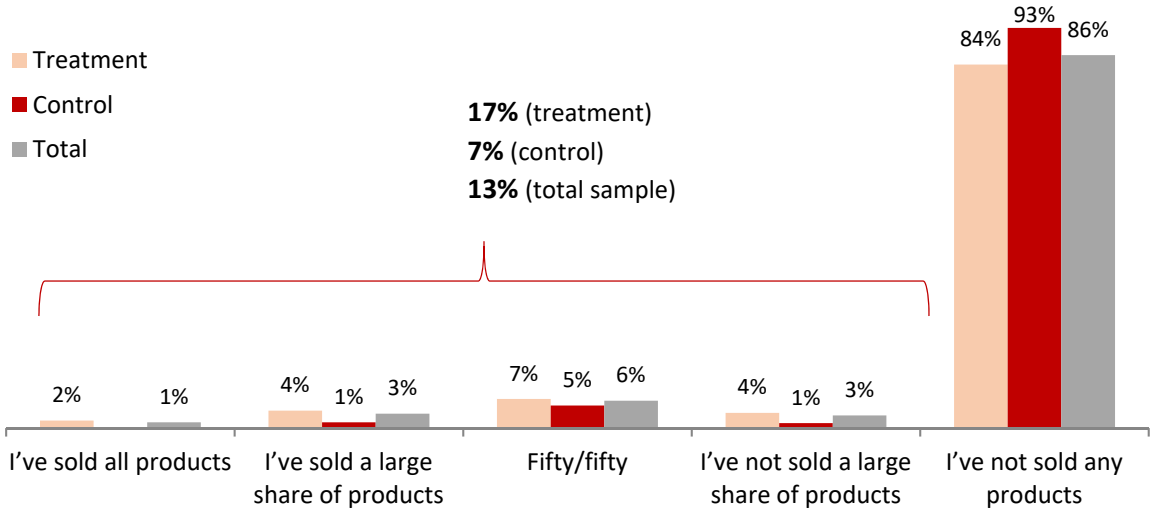
**Figure 96. Sale of Crops Without Processing*****




*N=588*

The share of farmers who have sold processed crops is comparatively low. A majority of the respondents state that they have not sold processed crops during 2016 (86%). The share of farmers who did not report any sale of processed crops is higher in control settlements than in treatment settlements.

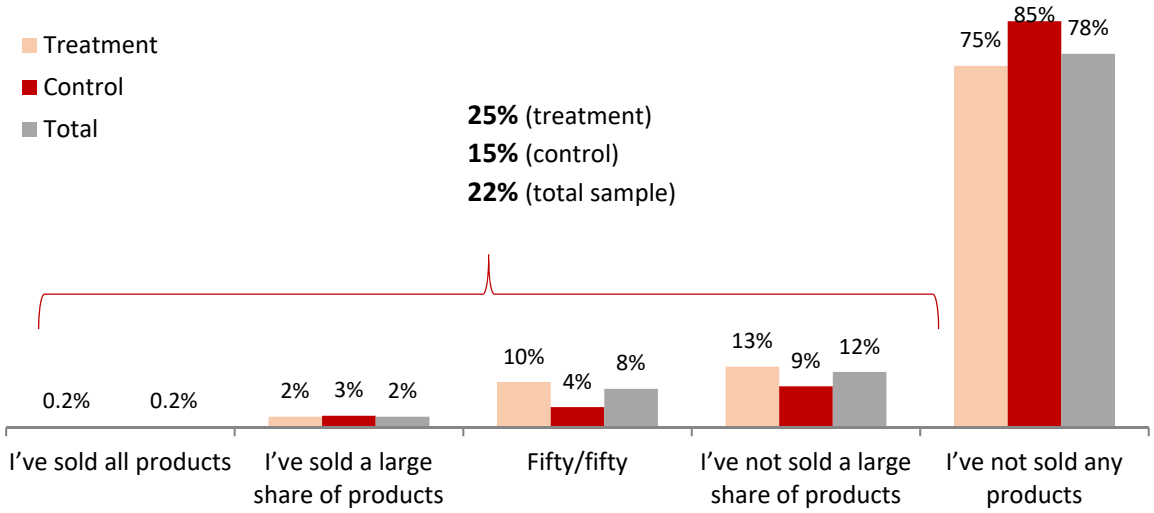
**Figure 97. Sale of Processed Crops*****




*N=514*

A majority of the respondents state that they did not sell any of the animals in their possession in 2016. However, some farmers (22%) state that they have sold at least one of their animals. The share of farmers who sold animals in 2016 is relatively higher in treatment settlements (25%), than in control areas (15%).

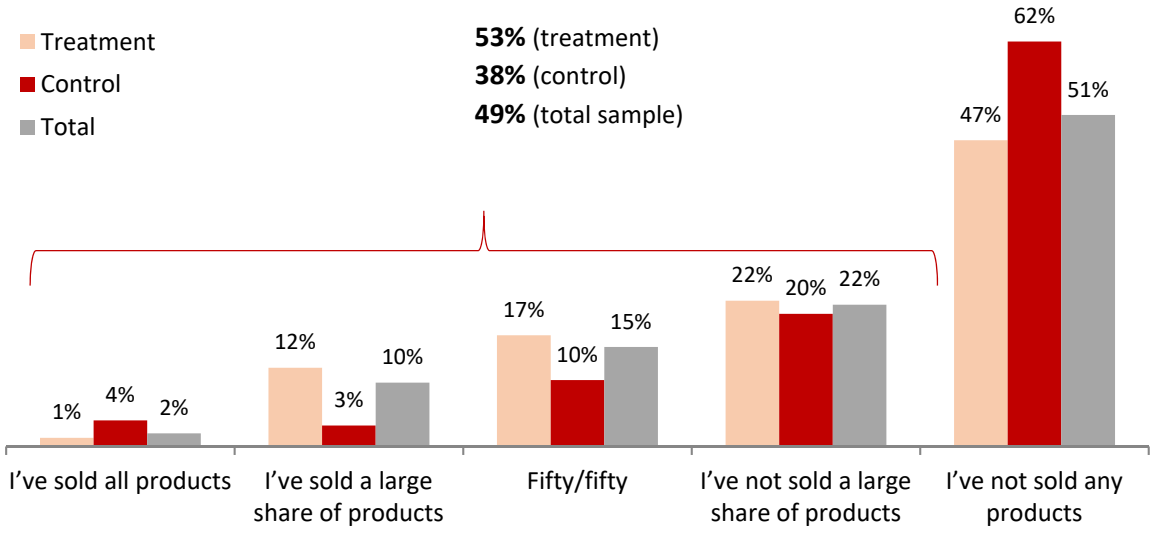
**Figure 98. Sale of Animals*****




*N=525*

As for the sale of primary processed animal products, the share of farmers that report sales is 49%. More surveyed farmers in treatment areas state that they have sold primary processed products in 2016 (53%), compared to farming HHs in treatment settlements (38%).

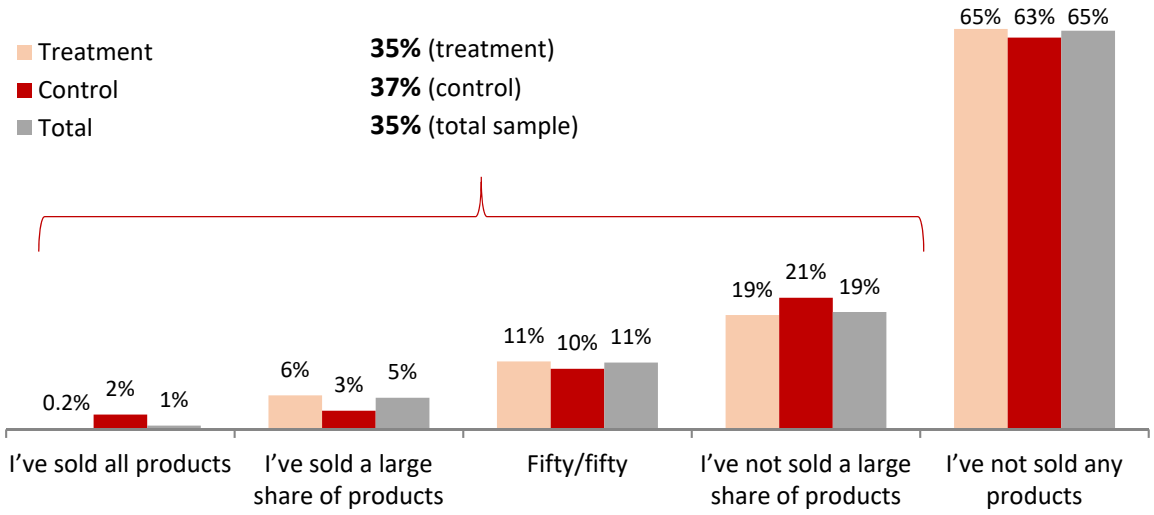
**Figure 99. Sale of Primary Processed Products**




*N=513*

A quarter of farmers report selling products of secondary processing in 2016 (35%). This trend is more or less similar in treatment and control settlements.

**Figure 100. Sale of Secondary Processed Products*****

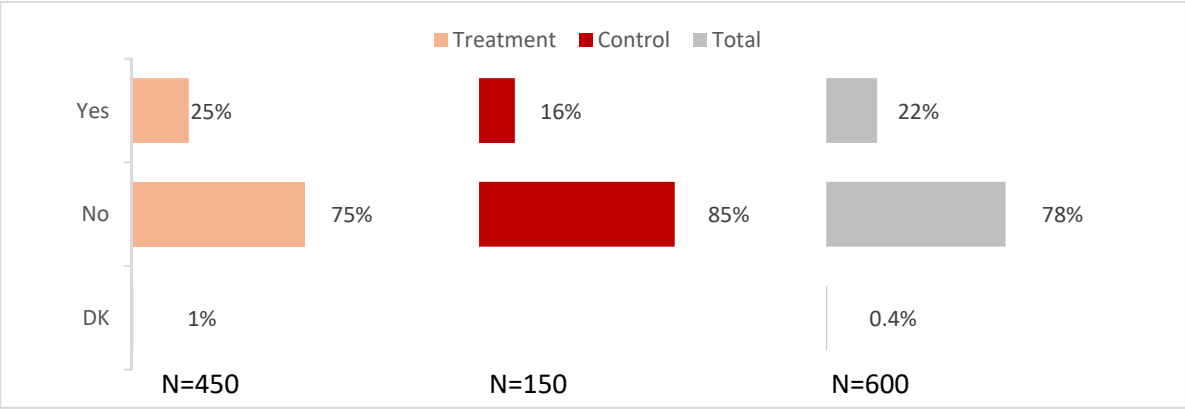



*N=442*

### 9.1.3. Attendance of Trainings and the Use of Extension Services

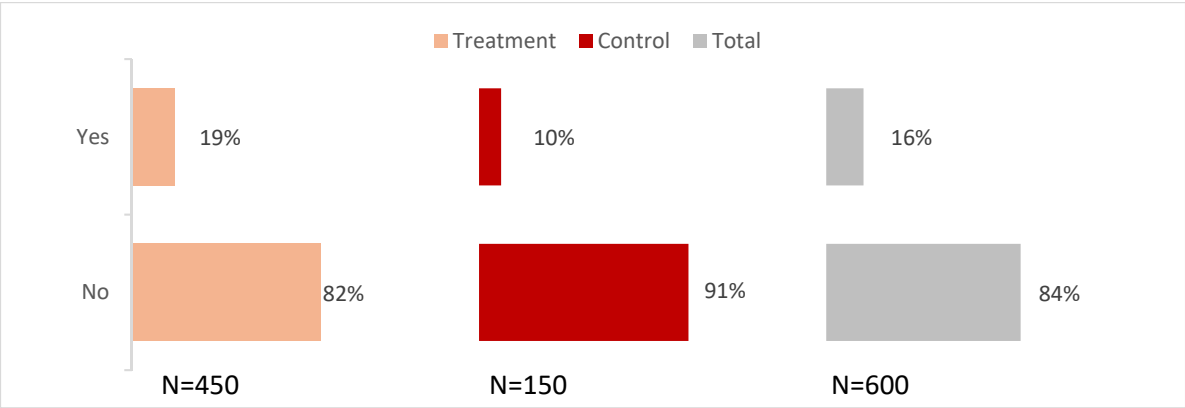
Within the scope of this study, respondents were asked about their experience attending **agriculture related trainings** in the last four or five years. As survey results show, a majority of the farmers have not attended any trainings (78%). Among those farmers who attended trainings, the share of farmers in treatment settlements is higher (25%) when compared to control settlements (16%). Among those who have attended trainings, the majority focused on animal husbandry (54%) and crop cultivation (51%). Some farmers have also attended trainings related to farm management or marketing (8%).

**Figure 101. Attendance of Trainings During Last 4-5- Years ****




As for **extension services/consultations** received during the last four or five years, 16% of farmers state that they received an extension service or a consultation. The share of respondents who received extension services is larger in the treatment area (19%), when compared to the control area (9%). The vast majority of farmers received extension services/consultations in crop cultivation (53%) and animal husbandry (49%).

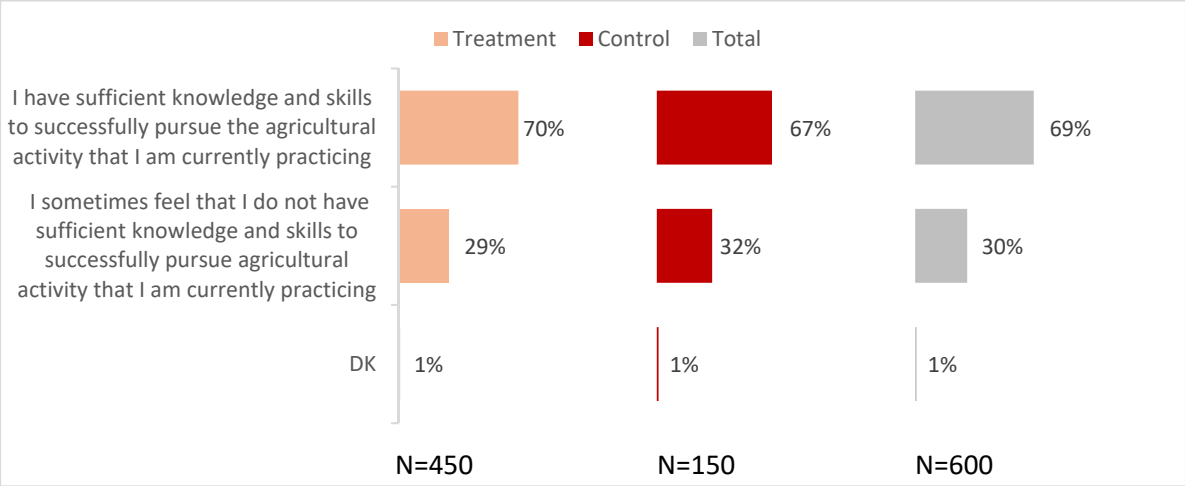
**Figure 102. Receiving Extension Services/Consultations During the Last 4-5- Years****




In the scope of this survey, farmers were asked to assess how they feel about the knowledge and skills that they use in their daily agricultural activities. As survey results show, the self-assessment of the

knowledge and skills of farmers is quite positive. Sixty-nine percent of farmers state that they have the sufficient knowledge and skills to successfully pursue the agricultural activities that they are currently practicing.

**Figure 103. Self-Assessment of Knowledge and Skills****



# 10. Research Results - Value Chain Drivers Study in Armenia

The study results for the VCD study are presented in five main chapters:

**(1) Outlook of VCDs** – this chapter reviews the intentions of VCDs related to their business activities. Information about confidence in agricultural activities, as well as their intentions to stay in or quit their business are presented.

**(2) Cooperation with smallholder farmers –** this chapter reviews the experience as well as the future plans of VCDs associated with cooperation with smallholder farmers.

**(3) Challenges in business operations –** this chapter provides an overview of the most prominent challenges faced by the VCDs.

**(4) Contract Farming** – the final chapter reviews the views and opinions of VCDs on contracting practices.

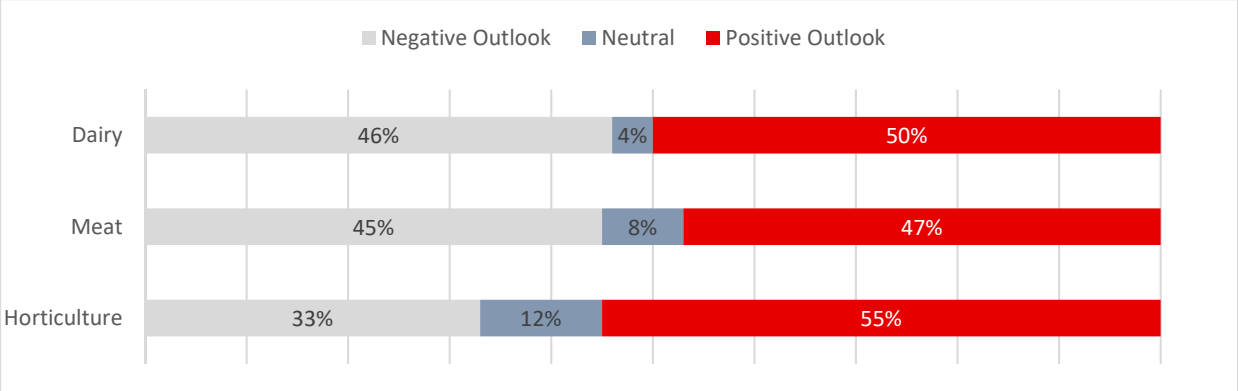
**(5) A description of VCDs and their business activities** – this chapter provides an overview of VCDs, their main and additional business activities, their experience obtaining loans, as well as investment plans for the upcoming years.

## 10.1. Outlook of Value Chain Drivers

Determining the perspectives and outlook of the VCDs represented one of the principal objectives of the conducted research.

VCDs were asked to assess their confidence in the future of the three VCs, despite their involvement. As evidenced by the research results, attitudes of the VCDs regarding the prospects of all three value chains within the following five-year time frame are relatively optimistic. The most optimistic attitudes are exhibited within the horticulture VC, while only moderately optimistic stances are reported within the dairy and meat VCs. Almost six out of ten surveyed respondents exhibit a positive outlook of the horticulture VC (55%), while almost five out of ten surveyed respondents express a positive outlook of the dairy and meat VCs (50% and 47%, respectively).

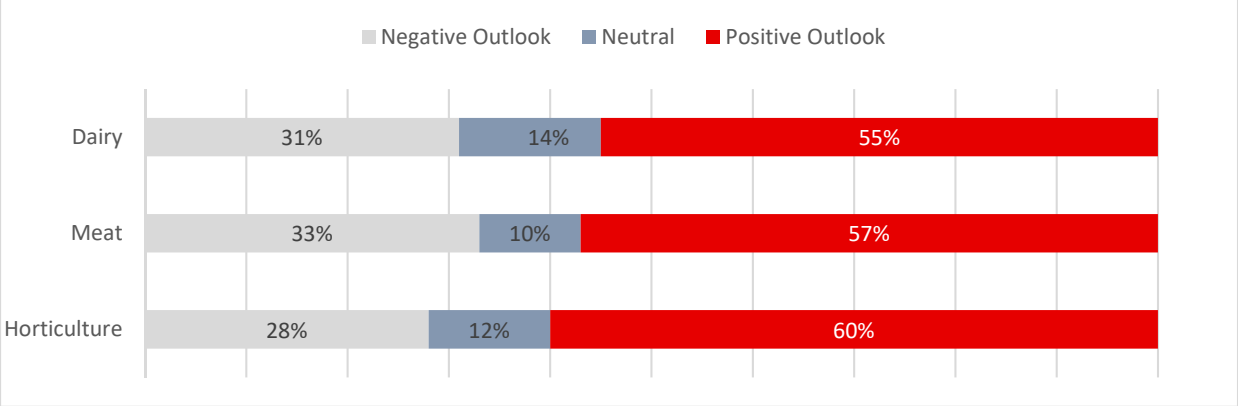
**Figure 104. Outlook on the Future of VCs[36] (General Assessment in the Own Region)**




*N=61*

As for the value chain assessments in which the surveyed value chain drivers conduct their business operations, research results revealed that the outlook regarding horticulture, meat and dairy production value chains are nearly identically optimistic among the VCDs, as six out of ten surveyed respondents exhibit positive attitudes towards the respective fields. In particular, 60% of the respondents engaged in the horticulture production value chain displayed optimistic viewpoints towards the latter value chain, while 57% and 55% expressed similar attitudes towards their respective value chains (meat and dairy farming, respectively).

**Figure 105. Outlook on the Future of VCs[37] (Assessment of Own Business Activities)**



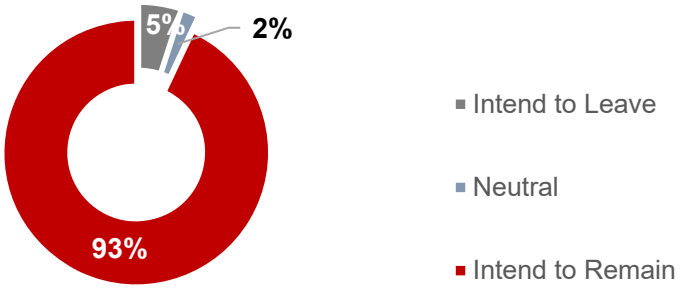

*N=61*

[36] Assessment was performed on a 7-point scale (1 = very negative and 7 = very positive). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

[37] Assessment was performed on a 7-point scale (1 = very negative and 7 = very positive). In this figure, the scale is recoded as follows: negative outlook = 1,2,3, neutral = 4 and positive outlook = 5,6,7.

When probed about the probability of remaining in or withdrawing from the business in which the surveyed VCDs predominantly conduct their business operations, an absolute majority (93%) of the respondents expressed the intention to remain in the same business for the following two or three years.

**Figure 106. Intention to Remain in /Leave the Current Business Activity[38]**

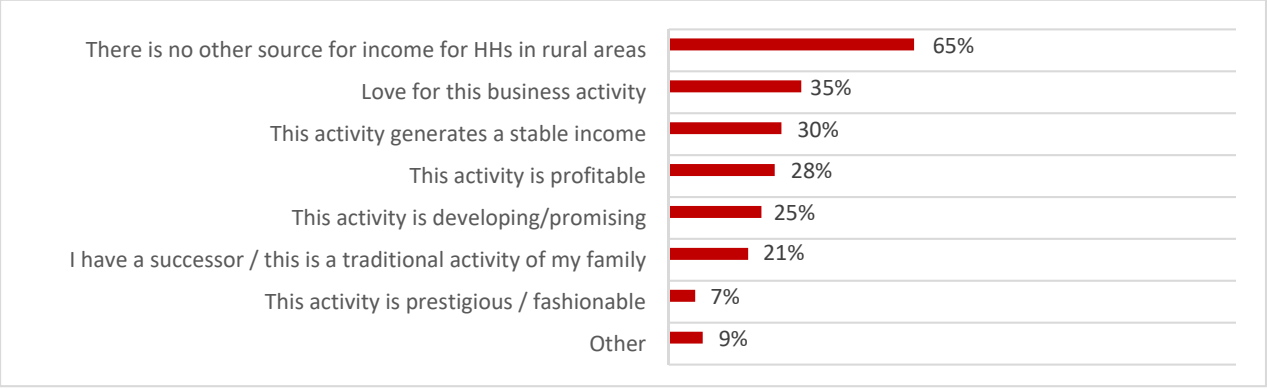



*N=61*

Only three surveyed VCDs inclined towards withdrawing from the VC in which they currently operate argue that insufficient finances and outgoing work represent the primary reasons informing their decision.

Value chain driver respondents inclined to remain within the VC in which they currently operate for the subsequent two or three years argue that the existence of no other source of income for households in rural areas (65%), love for the business activity (35%), a sustainable income (30%), and profitability (28%) represent the primary reasons influencing their future plans. When probed for the principal determinant for remaining in the current line of business activity, a large part of surveyed VCDs indicated two main reasons: namely, having no other income sources in rural areas (40%) and a love for this business activity (26%).

**Figure 107. VCDs' Reasons for Remaining in the Business**



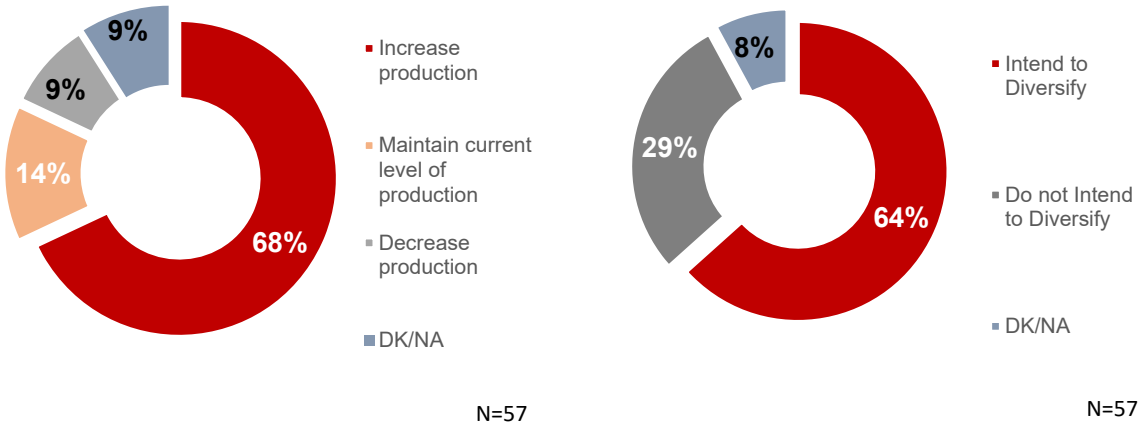

*N=57*

[38] Assessment was performed on a 7-point scale (1 = do not intend to stay at all and 7 = very much intend to stay). In this figure, the scale is recoded as follows: intend to leave = 1,2,3, neutral = 4 and intend to stay = 5,6,7.

The research results revealed that a majority of the surveyed VCDs (68%) not only intend to maintain their current business activity for the following two to three years, but also aim at **expanding their existing business and increasing production**. According to the survey results, 14% of the surveyed respondents intend to maintain current levels of production, nine percent aims to reduce production, while another nine percent are uncertain of whether to increase, reduce, or maintain their current business assets and levels of production.

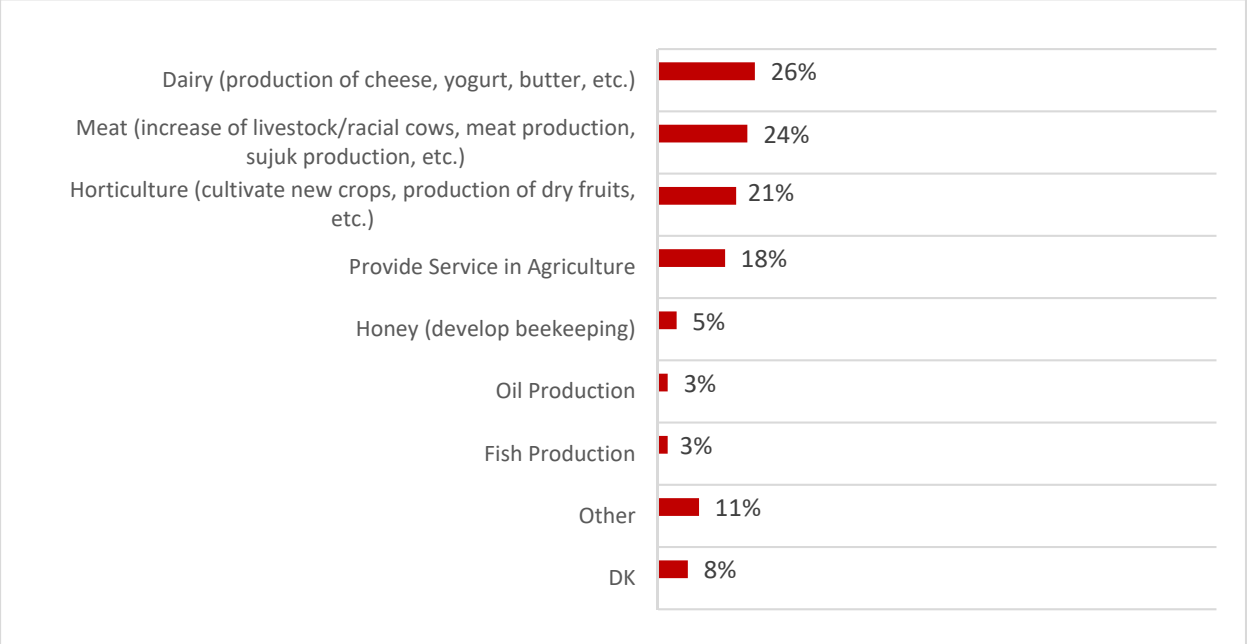
It is noteworthy that a majority of the surveyed VCDs not only intend to expand their business activities for the following two to three years, but also aim at **diversifying** (64%). Eight percent of the surveyed value chain drivers are thus far undecided with regards to the above-mentioned issue (an "I don't know" response), while 29% of the respondents have no immediate plans for diversifying their business activities in the nearest future.

**Figure 108. VCDs' Intentions to Expand & Diversify their Businesses**




It should be taken into consideration that 26% of surveyed VCDs intend to diversify their business activities in the direction of the dairy VC and produce cheese, yogurt and other types of dairy products, while 24% intend to diversify their business activities in the direction of the meat VC (increasing livestock meat production, producing sujuk, etc.). Twenty-one percent of VCDs intend to diversify their activities in the direction of the horticulture VC (cultivating new crops, producing dry fruits), while 18% of the surveyed respondents intend to provide different services in agriculture.

**Figure 109. Desired Fields of the Diversification of Production**




*N=36*

According to the results of the conducted qualitative research, VCDs intend to not only maintain their business ventures, but to expand the scope of their activities as well, which based on the responses is primarily premeditated by their **respect and love** for their work. The narratives of the interviewed VCDs revealed that ancestry poses as one of the principal determining factors in this regard, as much as following agricultural pursuits represented a traditional activity for VCDs' families.

> *Although we have a lot of problems that can be solved, we try to solve them with our modest means. T important thing is that we love our work and we'll go straight ahead. [Horticulture, Syunik]*
>
> *I can say that not only I will stay in this field, not to exaggerate, but I will not feel good without this activity. It's like I have already found my world, I am feeling myself, it is already the work that is leading to success, and you begin to expand your dreams… [Horticulture, Syunik]*
>
> *I should firstly mention our love. I love agriculture; all of my ancestors were agronomists, my father, my uncle, my cousins. The only error was just me, I studied economy the field of machinery, but my genes won. From economy, I entered into agriculture again... [Horticulture, Syunik]*

Furthermore, it is noteworthy that when probed regarding the future , the interviewed respondents reported that in addition to the family and admiration factors, the above-mentioned line of business activities is also maintained due to the VCDs' **sense of importance** of the work they are involved in.

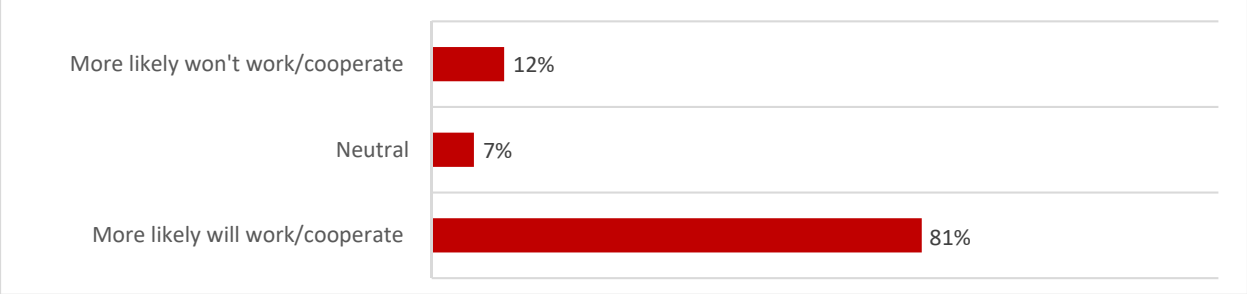
*For sure [I plan to expand my activity]. I get great pleasure from it, I grew up in it since childhood, and I love the job. [Dairy/Meat, Vayots Dzor]*

*Of course it is an important factor, it is like you understand that you are doing a good thing. [Horticulture, Syunik]*

## 10.2. Cooperation with Smallholder Farmers

One of the primary objectives of the study was to determine VCDs' attitudes regarding their potential future partnerships with smallholder farmers. As evidenced by the research results, a majority of VCDs have a history of cooperation with smallholder farmers, and therefore a vast majority of value chain drivers (81%) intend to work/cooperate with them over the subsequent two or three years.

**Figure 110. Intention to Work/Cooperate with Smallholder Farmers[39]**




*N=59*

When probed for the principal determinant for **not intending to maintain working relations/cooperation with smallholder farmers** over the subsequent few years, surveyed respondents indicated a variety of justifications, namely: unfavourable payment conditions/prices, reliability of farmers, as well as a desire to work independently/have their own production. As for the rationale for **maintaining working relations/cooperation with smallholder farmers** over the subsequent few years, 39% of the surveyed respondents report that there is not a sufficient quantity of large suppliers in the area. Furthermore, a practically identical share of respondents stipulated that smallholder farmers are their direct customers, and they have a long relationship history with them which could be considered as an incentive to maintain the partnership (33-31%, respectively). It should be noted that among a wide variety of determinants for maintaining working relations/cooperating with the smallholder farmers, every fifth surveyed value chain

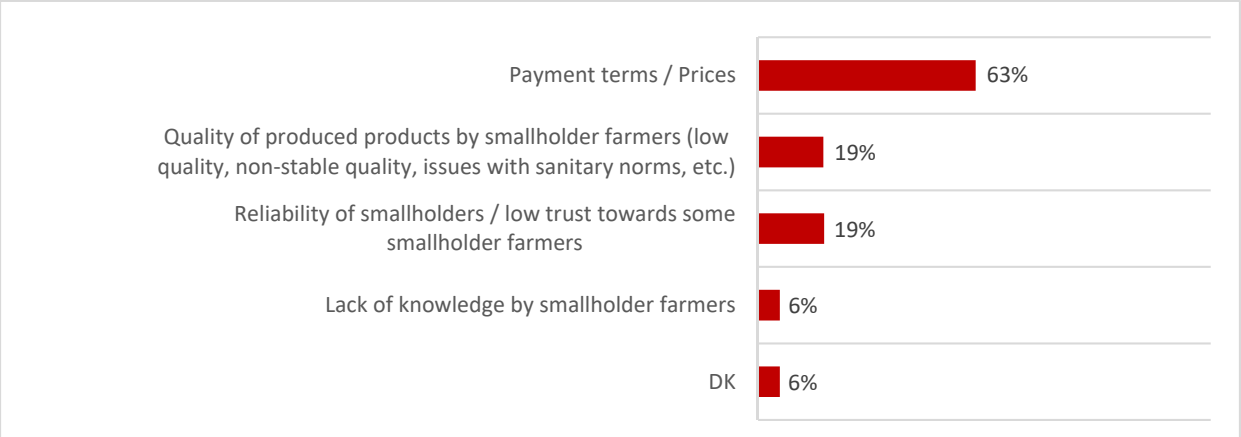
[39] Assessment was performed on a 7-point scale (1 = definitely will not cooperate and 7 = definitely will cooperate). In this figure, the scale is recoded as follows: more likely won't cooperate = 1,2,3, neutral = 4 and more likely will work/cooperate = 5,6,7.

driver defined an insufficient quantity of large suppliers (20%), as well as an existing number of smallholder farmer customers (18%) as the primary factor, which further underscores the importance of social capital in such relationships.

**Figure 111. All Reasons for Working/Cooperating with Smallholder Farmers**


It should further be noted that according to the research results, according to 67% of surveyed VCDs, no obstacles are present within the framework of the relationship with smallholder farmers, as opposed to the 25% of respondents who indicate that particular difficulties may arise when cooperating with smallholder farmers. Two of the most frequently named challenges when having working relations with smallholder farmers are: unfavourable payment conditions (named by 10 surveyed VCDs), as well as the insufficient quality of products (named by three surveyed VCDs). The reliability of smallholder farmers, (i.e. low trust towards them) is also named as a challenge by three interviewed VCDs. One VCD stated that the lack of knowledge of smallholder farmers is a factor that he faced while working with smallholders.

**Figure 112. Key Challenges in Working/Cooperation with Smallholder Farmers**

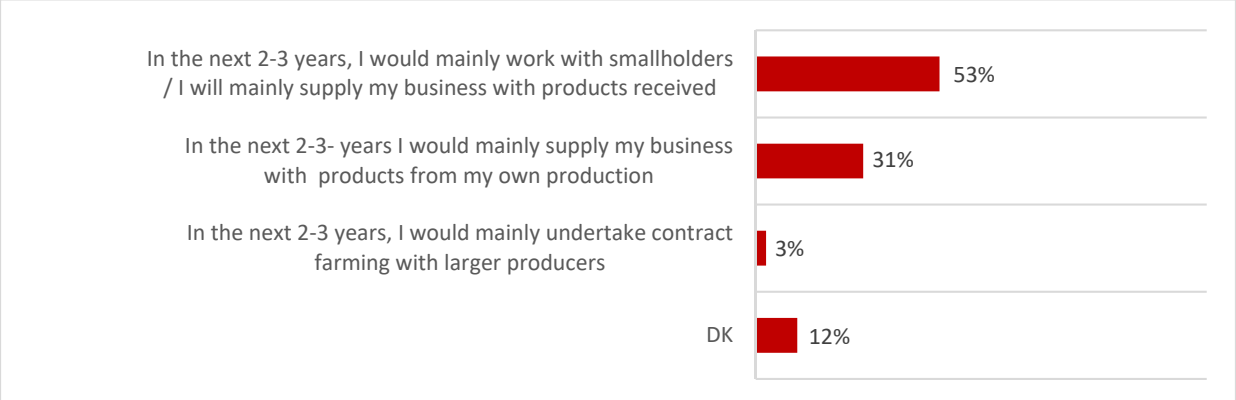



*N=16*

When probed for the means of resolving existing challenges within the relationship between the smallholder farmers and the VCDs, most of the interviewed VCDs could not provide any suggestions. Three survey participant VCDs think that establishing mutual trust between the above-mentioned groups could be helpful. The following suggestions were also made by various surveyed value chain drivers: working on credit, providing training for smallholder farmers, increasing the number of cattle owned by smallholder farmers, improving the financial conditions of farmers, not importing meat from abroad, as well as having agreed upon conditions.

According to the survey outcomes, every other value chain driver (53%) intends to retain smallholder farmers as their business suppliers within the subsequent two or three years. Thirty-one percent of respondents estimate supplying their business enterprises through goods produced themselves, while three percent of surveyed value chain drivers estimate establishing contract-based relations and cooperation with large suppliers. It should be noted that 14% of the respondents are thus far undecided as to the strategy to be employed within the subsequent two to three years.

**Figure 113. Intentions Connected with Smallholder Farmers**




*N=61*

Central discourse revealed by the conducted qualitative research shows that the VCDs prefer conducting business with *large farmers or farming enterprises,* even though VCDs acknowledge that switching to conducting business exclusively with large farmers is unrealistic at this point. VCDs named various advantages of working with larger farms compared to working with smallholder farmers. According to the respondents, smallholder farmers' prevailing **mistrust** represents one of the dominant factors in this context. More particularly, as smallholder farmers are less inclined to trust VCDs, establishing and maintaining business relationships with them is more challenging than dealing with large farmers. **Time**, and particularly the pursuit to save it, represents the second often mentioned factor, as according to the interviewed respondents, discussing and resolving any existing issues with large farmers is a considerably quicker and easier endeavour. The aforementioned factor is generally acknowledged as an indisputable advantage.

*A large farmer […] has a developed mindset, I don't mean educational level; it is easier [to cooperate] with them. Smallholder farmers have more disbelief, that you should be careful. [Horticulture, Syunik]*

*With the large farmers it is easier, and everything is solved fast. [Horticulture, Syunik]*

**More prospects of further development and progress** have been identified as another factor for the VCDs' preference towards conducting business with large farmers. According to the VCDs, a further significant incentive for cooperating with large farmers and sharing practices with them is the latter's already extensive experience of being successful in their respective line of business. An additional factor which sways VCDs towards large farmers or farming enterprises is the **opportunity to generate a larger income.** According to the above-mentioned narrative, the larger the farmer, the greater the chance to expand business activities, and therefore, the greater the revenue.

*If it is a large farmer, he also will have a great deal of livestock, and it will be more beneficial than working with small farmers. […] But I do not neglect the small ones; I started working as a small farmer. [Dairy/Animal Husbandry, Vayots Dzor]*

Research participant VCDs currently cooperate with smallholder farmers with whom they had cordial if not friendly relations with even prior to the inception of the said relationship and still maintain these relations even after the commencement of business ventures. Yet, the interviewed respondents indicate that *expansion of these smallholder farmers would be more preferable*. It should be noted that despite their eagerness to cooperate predominantly with large farmers, VCDs acknowledge that switching to conducting business exclusively with large farmers is unrealistic at this point, and therefore they endeavour to gain/maintain the smallholder farmers' sympathies. It has further been stressed that the differentiation between large and smallholder farmers is practically immaterial for the interviewed VCDs, as long as the farmer they cooperate with is reliable and trustworthy.

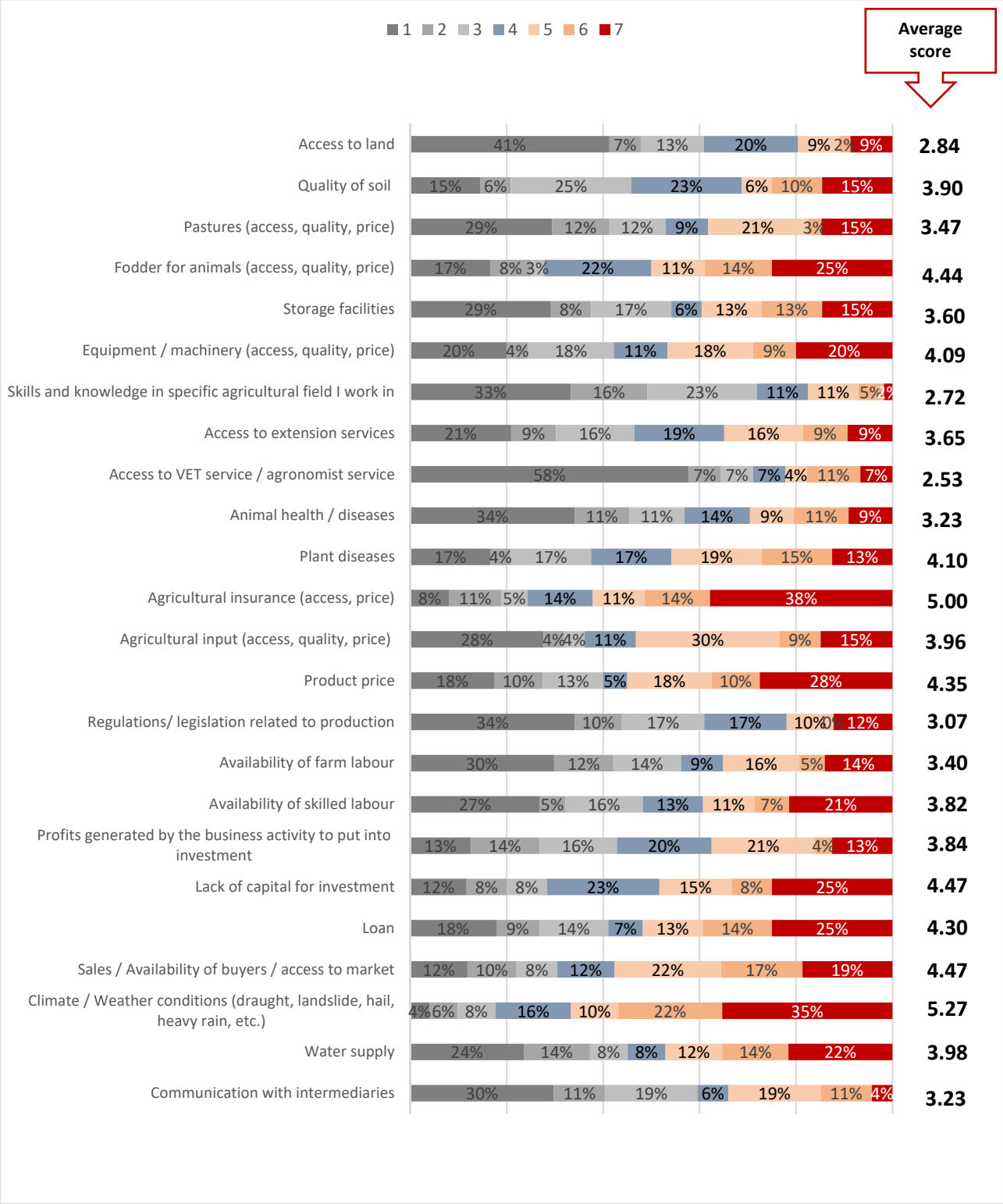
*Like we do with kids [relations with smallholder farmers], we give a treat to win their hearts, and we follow a little bit whatever they demand... [Horticulture,* Syunik*]*

*You know that we shouldn't separate the small and the large, in the future it is my dream to cooperate with serious and honest farmers apart from the quantities started from one kg till 10-20 tons. We are interested in honest farmers, the product that is produces in a conscientious way is a huge weapon for invading the market, so a well-produced product is the basis of our business. [Horticulture,* Syunik*]*

## 10.3. Challenges in Business Operations

Almost every issue on the list of prevalent challenges has been assessed as moderately problematic by surveyed value chain drivers. The average assessment of climate conditions (5.27), agricultural insurance (5.00), lack of capital for investment (4.47), as well as access to the market (4.47) are is identified as significant problems. It should be noted that access to VET services as well as knowledge and skills in the agricultural field in which the value chain drivers operate are identified as the least problematic factors.

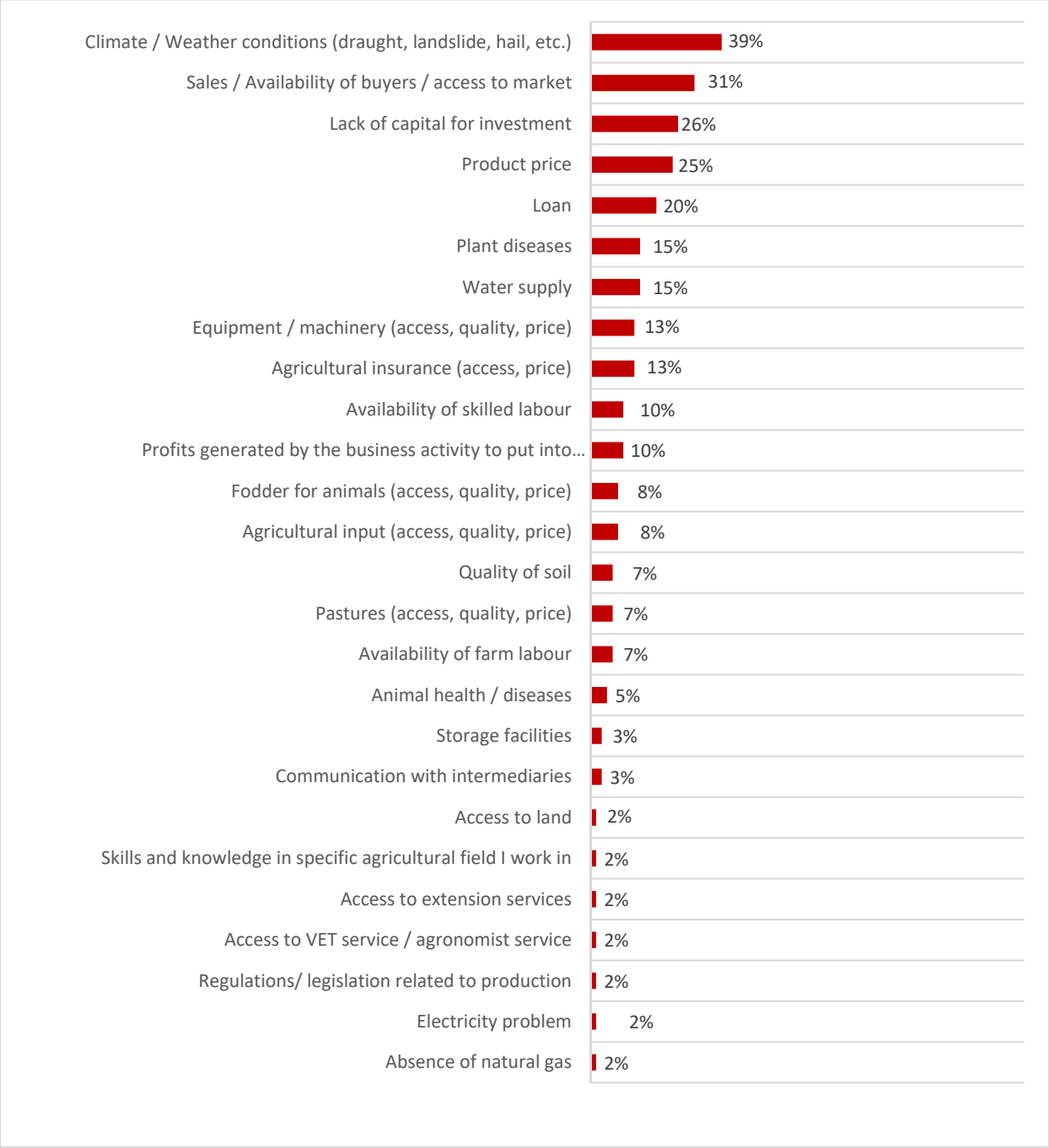
**Figure 114. Challenges within VCDs' Business Activities**




*N=61*

Climate conditions were identified as the most prominent issue on the below-presented list of challenges (39%), along with market access/sales (31%). A lack of capital investment (26%), as well as the pricing of products (25%) are named as problematic by every fourth surveyed VCD. For every fifth VCD, a challenge is loans (20%).

**Figure 115. Most Prominent Challenges**




*N=61*

When probed for challenges, qualitative study participant VCDs identified a **lack of qualified personnel** as one of the prominent concerns posing a serious obstacle in their daily operations. **Infrastructural problems** were also cited among the challenging issues. More particularly, improper road infrastructure, which hinders the process of product delivery to a destination. Furthermore, **insufficient equipment/machinery** was recognized as an additional problem.

> *It would be great if the electricity issue was solved, and the roads were reconstructed. Our cooperative is 15 km from the village. During the Soviet times, the roads were reconstructed and there was a lot of equipment. [Dairy/Meat, Vayots Dzor]*
>
> *The lack of machinery [is a problem], if there were at least two mowing harvesters in the village, they would manage. We had one, but it was broken, and we were told to wait for another 10 days, but the harvest cannot wait. It's one of our main problems. [Meat, Vayots Dzor ]*

**Insufficient access to the market** was also recognized as one of the prevalent issues by the interviewed respondents. The importance of increasing export potential was of particular significance for the VCDs, in which the state is assigned a vital role. *Low price of milk* represents a particular problem for the dairy VC, which further correlates to market-related issues. Low milk prices on the market on one hand, and the lack of accessibility to the market owing to its location (long distance) on the other hand, pose pressing problems for the VCDs.

> *I want a lot of support from our Ministry of Agriculture. We need government assistance... They should help to export the product. [Dairy/Meat, Vayots Dzor]*
>
> *There is a problem of sales, as well as the issue of milk collection. Let me say one thing: today the price of milk in Armenia is very low, one liter of water costs 250 drams, and one liter of milk costs 140-150 drams. That's why the farmer is disappointed. He doesn't want to produce or keep the animal. This is the main reason. That the milk cost is very low. [Dairy/Meat, Vayots Dzor]*
>
> *As it is for me, for the farmers in Meghri there is a problem: we are far from the sales market… [Horticulture, Meghri]*

It is noteworthy that according to the interviewed VCDs, the artificial insemination of livestock and the production of new cow breeds is regarded as a distinct major way to solve prevalent issues within the dairy VC.

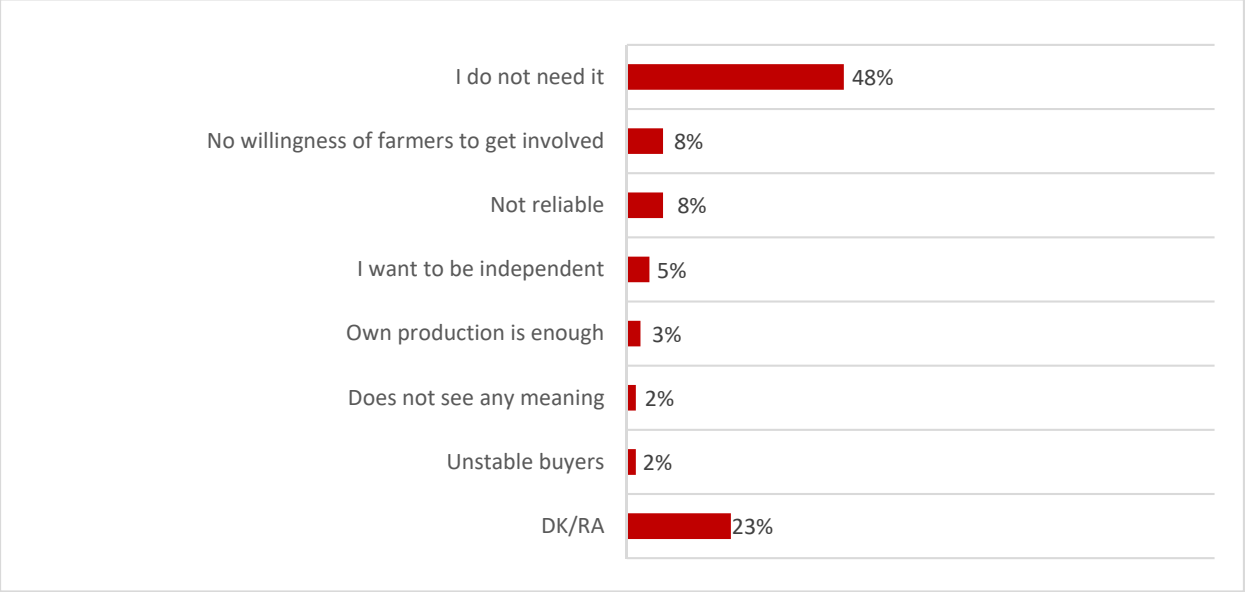
> *One of the positive acts is artificial insemination. It is a major upgrade. There was once a project here […] we had done artificial insemination on the spot, and we had improved the species, which gave more milk and somehow mitigated the less milk producing cows. They were replaced with more productive cows. So all of these compensated the low milk price somehow. [Dairy/Meat, Syunik]*

## 10.4. Contract Farming

One of the objectives of the conducted research was to determine value chain drivers' attitudes regarding potential future partnerships with contracted farmers. Research results revealed that currently, only one out of the surveyed value chain drivers has a contract-based relationship with smallholder farmers, and it has the intention to either contract or to prolong a contract with the farmers.

Forty-eight percent of respondents declare that they do not need to maintain or plan to contract smallholder farmers. Twenty percent have no specific objections and fail to clarify why they would not engage in such working relationships with smallholder farmers. An equal share of surveyed respondents identified no willingness of farmers to get involved and a lack of reliability as grounds for refusal to contract smallholder farmers (eight percent).

**Figure 116. Reasons for the Reluctance to Maintain/Get Involved in Contract Farming in the Future**




*N=61*

Only one surveyed value chain driver named a reason for the willingness to maintain or get involved in contract farming in the future. The reported reason was mutual support and confidence.

With regards to contract farming, results of the qualitative research revealed that cooperation conditions between the interviewed VCDs and the farmers are founded on a verbal agreement, which for the purposes of the mentioned business transactions is regarded as sufficient and acceptable for the following several reasons: first and foremost, *contract signing and the consequent formal imposition of liabilities incites negative attitudes in farmers*, and is therefore avoided by VCDs at all costs. Secondly, contract signing tends to be complicated due to *the seasonal nature of the business activity* (the aforementioned

factor particularly concerns the dairy VC), as the volume of the harvest/manufactured products varies depending on the season, which consequently influences price fluctuations.

> *A contract would add additional anxiety for our farmers, and we don't want to put a chain of additional obligations on the farmers. We try to work in a peaceful and free manner, and we even do not impose constant work with us from the start to the end of the year… Currently we do not have obligations; we are trying to establish close friendly relations with farmers. Only then will we pass on to paper and pen. [Horticulture, Syunik]*
>
> *We cannot make a contract for summer and winter at the same price. In summer, milk is cheap, but in winter it is expensive... It would be good for me, but because of the fluctuations, there is a risk. We have an oral agreement, but there is no paper. [Dairy, Syunik]*

It should also be taken into account that *VCDs themselves do not have signed contracts with their own customers.* Hence, in addition to market instability posing a significant problem, VCDs are also not convinced that they are able to provide sufficient quantities of products to their customers.

> *If the market is stable for a year, we will have already decided how to proceed, but it's unstable now. [Dairy, Syunik]*
>
> *We can have 10 kg of cheese today, but tomorrow we will not have it, but by the contract, we must provide a certain amount of cheese this month […] The contractor will say that the condition was such; you should have given me cheese every month and you did not do it… There is a risk. [Meat, Vayots Dzor]*

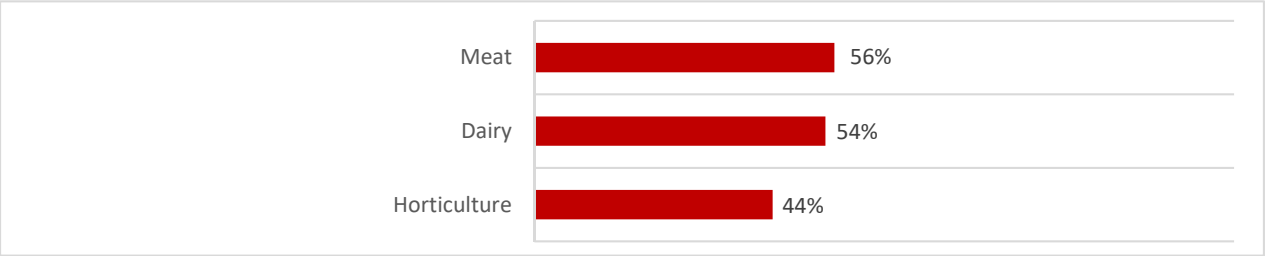
Interviewed VCDs consider that transitioning to the contract farming model is less realistic at this stage and in the near future because of the above-listed reasons. However, the interviewed respondents regard the contract farming model as significant not only just for the purposes of organizing their respective work processes, but also for the development of the country's economy in general.

> *[…] in the future, it [contract farming] should be implemented in order to regulate the market, correctly organize the offer-demand. At the moment, we do not put this burden on the farmers. [Horticulture, Syunik]*
>
> *The advantage is to drive the right economy in the right country; industry means just that. If I know on a contract basis how much milk I have to produce, then I will produce it and will not have any problems with selling. [Dairy/Meat, Syunik]*

## 10.5. Value Chain Drivers and Their Business Activities

In Armenia, VCDs in three target VCs, namely, meat, dairy and horticulture, were interviewed. In total, 61 face-to-face interviews with VCDs in two target regions (Syunik and Vayots Dzor) were conducted within the framework of the quantitative survey, according to which a majority of the surveyed VCDs conducted professional activities in the meat (56%) and dairy (54%) production value chains. Forty-four percent of surveyed value chain drivers are engaged in the horticulture VC.

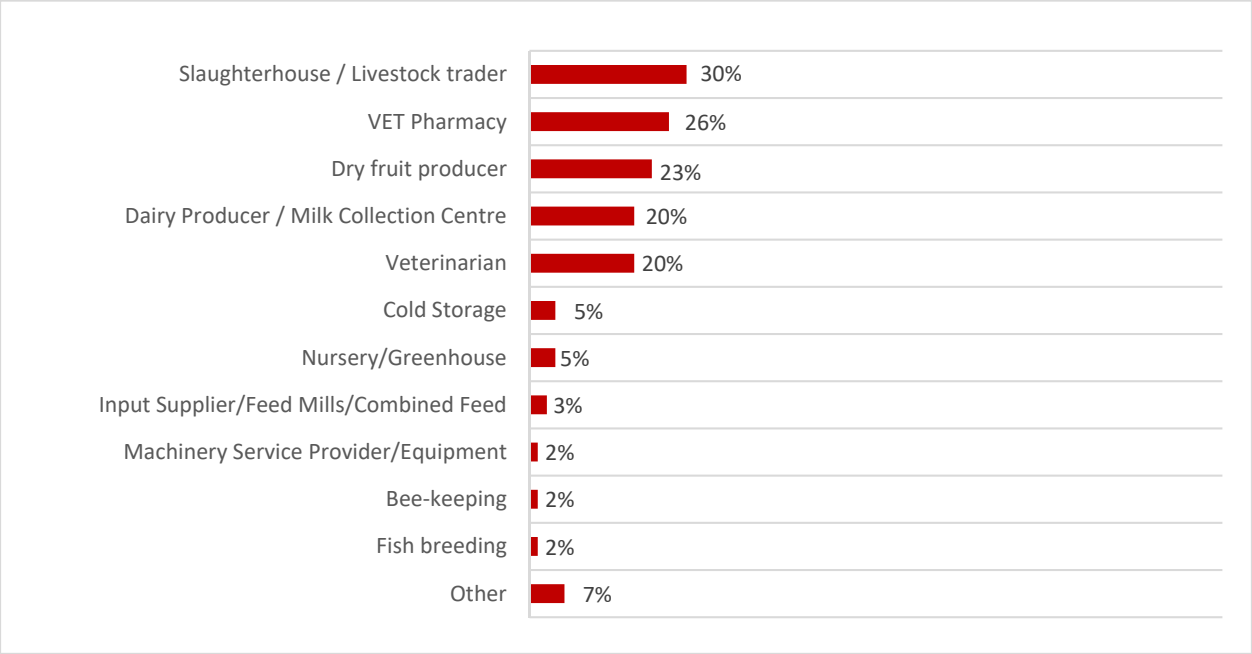
**Figure 117. Distribution of Interviewed VCDs by VC**




*N=61*

As for the types of activities conducted by the survey target group, 30% of surveyed VCDs are engaged in livestock trade/slaughterhouse, 26% represent veterinary pharmacies, 23% of the VCDs operate in the field of dry fruit production, while 20% are occupied either within dairy production/milk collection centres or work as veterinarians.

**Figure 118. Types of the Interviewed VCDs**



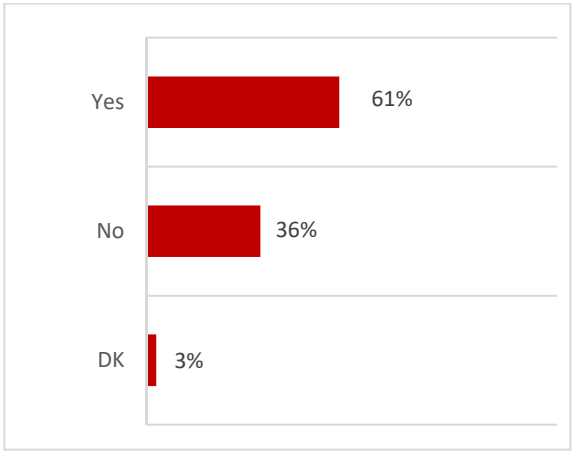

*N=61*

As shown by the research results, a vast majority of surveyed VCDs conduct activities solely within the agricultural sector: cattle breeding, bee-keeping, fish breeding, tea collecting and packaging, horticultural production, artificial insemination, veterinary services, etc. Only 14% of inquired value chain drivers are also engaged in other trade and business activities.

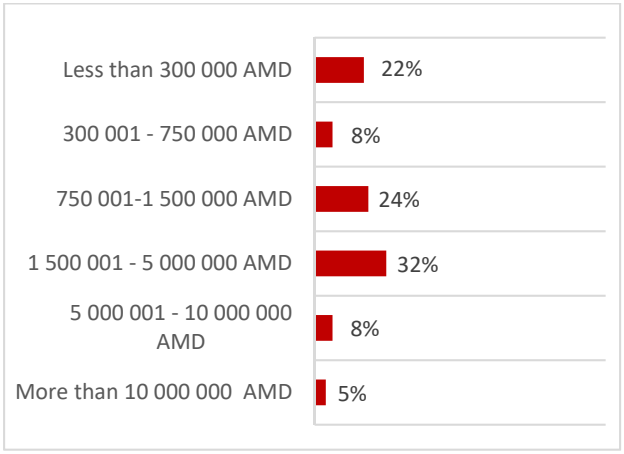
According to the survey results, 56% of VCDs have obtained loans from a bank or other financial authorities in 2016, while the remaining 43% have no such experience. As for intentions, 54% of the surveyed respondents do not plan to take a loan for their business operations, while 39% report the intention to take loans from a variety of sources in 2017.

As for the forthcoming two-to-three-year plan, 61% of surveyed respondents intend to invest in their business. Only few of surveyed VCDs are undecided regarding the above-mentioned investment (three percent), while 36% have no plans or intentions to invest in their business operations for the upcoming few years. Almost every third VCD (32%) plans to invest between 1,500,000 and 5,000,000 AMD, while five percent of VCDs have plans to invest more than 10,000,000 AMD.

**Figure 119. Intention to Invest in their Business for the Subsequent 2-3 Years**




*N=61*




*N=37*

As for trainings and consultations, according to the survey responses, 95% of interviewed value chain drivers (or their employees) previously attended various trainings, while 97% of them (or their employees) have received consultations with regards to the activities at hand.

# Annex 1. Georgia

**Table 22. Logistic Regression**

| Logistic Regression | | | | | |
|---|---|---|---|---|---|
| | | Robust | | | |
| Dependent Variable - Wish to Stay in Agriculture | Coef. | Std. Err. | z | P>z | Odds Ratio |
| Intellectual Resources | -0.2644378 | 0.095369 | -2.77 | 0.006*** | 0.7676374 |
| Adjara | 0.7597667 | 0.3342293 | 2.27 | 0.023*** | 2.137777 |
| Samtskhe-Javakheti | -0.7300478 | 0.241233 | -3.03 | 0.002*** | 0.4818859 |
| Kvemo Kartli | -0.9637758 | 0.2814382 | -3.42 | 0.001*** | 0.3814499 |
| Dairy VC | 0.4725853 | 0.2765049 | 1.71 | 0.087** | 1.604136 |
| Economically active Population (30-60) | 0.4169247 | 0.1992249 | 2.09 | 0.036*** | 1.517288 |
| Higher Education | 0.6505379 | 0.2103653 | 3.09 | 0.002*** | 1.916571 |
| Optimistic Assessment of at least Three VCs | 0.6840831 | 0.1954894 | 3.5 | 0.000*** | 1.981954 |
| Household income stayed the same | -1.627905 | 0.4851501 | -3.36 | 0.001*** | 0.1963406 |
| Household income decreased | -2.217903 | 0.5044726 | -4.4 | 0.000*** | 0.1088371 |
| _cons | 1.360954 | 0.5763829 | 2.36 | 0.018 | 3.899913 |

Note: *** and ** indicate significance at 5% and 10% respectively

**Table 23. Definition of Variables Used in the Regression Model**

| Variable | Variable Code | Type of Variable | Description |
|---|---|---|---|
| **Dependent Variable** | | | |
| Wish to Stay in Agriculture | z3_dum | Dummy variable | 1 =Wish to stay in agriculture, 0 = otherwise<br><br>Assessment was performed on a 7-point scale (1 = very negative & 7 = very positive). For regression analysis the scale is recoded as follows: wish to stay in agriculture = 5,6,7 Otherwise = 1,2,3,4. |
| **Independent Variables** | | | |
| **Intellectual Resources** | FAC2_IR | Continuous variable | Intellectual Resources - derived from factor analysis |
| **Adjara** | reg_a | Dummy variable | 1 = Adjara, 0 = otherwise |
| **Samtskhe-Javakheti** | reg_s | Dummy variable | 1 = Samtskhe-Javakheti, 0 = Otherwise |
| **Kvemo Kartli** | reg_kk | Dummy variable | 1 = Kvemo Kartli, 0 = Otherwise |
| **Dairy VC** | Dairy | Dummy variable | 1 = Being in dairy value chain, 0 = Otherwise |
| **Economically active Population (30-60)** | Age_11 | Dummy variable | 1 = 30-60 years old, 0 = otherwise |
| **VET & Higher Education** | educ_dum2 | Dummy variable | 1 = VET & Higher education 0 = otherwise |

| Variable | Variable Code | Type of Variable | Description |
|---|---|---|---|
| | | | VET & Higher education includes = VET education, Bachelor, Master or above. |
| **Optimistic Assessment of at least Three VCs** | z1_dum2 | Dummy variable | 1 = Very optimistic assessment of at least 3 value chains, 0 = otherwise<br><br>Assessment was performed on a 7-point scale (1 = very pessimistic & 7 = very optimistic). For regression analysis the scale is recoded as follows: very optimistic assessment = 5,6,7 Otherwise = 1,2,3,4. |
| **Household income stayed the same** | i2_inc2 | Dummy variable | 1 = Household income stayed the same in the last 2-3 years, 0 = otherwise |
| **Household income decreased** | i2_inc3 | Dummy variable | 1 = household income has decreased in the last 2-3 years, 0 = otherwise |

# Annex 2. Armenia

**Table 24. Logistic Regression**

| Logistic Regression | | | | | |
|---|---|---|---|---|---|
| | | Robust | | | |
| Dependent Variable - Wish to Stay in Agriculture | **Coef.** | **Std. Err.** | **z** | **P>z** | **Odds Ratio** |
| Suynik | 0.6767836 | 0.2349711 | 2.88 | 0.004*** | 1.967539 |
| Treatment | 0.8023954 | 0.2422936 | 3.31 | 0.001*** | 2.230878 |
| Higher Education | -1.067925 | 0.3620353 | -2.95 | 0.003*** | 0.343721 |
| Household income has decreased | -0.6451981 | 0.2568046 | -2.51 | 0.012** | 0.524559 |
| Usage of extension service/consultation | 0.9019326 | 0.463721 | 1.94 | 0.052* | 2.464361 |
| Optimistic Assessment of at least two VCs | 0.9130672 | 0.3307074 | 2.76 | 0.006*** | 2.491954 |
| _cons | 0.8347451 | 0.2948267 | 2.83 | 0.005*** | 2.304227 |

Note: *** and ** indicate significance at 5% and 10% respectively

**Table 25. Definition of Variables Used in the Regression Model**

| Variable | Variable name | Variable Type | Description |
|---|---|---|---|
| **Dependent Variable** | | | |
| | Z3_rec | Dummy Variable | 1 = Wish to stay in agriculture, 0 = otherwise<br><br>Assessment was performed on a 7-point scale (1 = very negative & 7 = very positive). For regression analysis the scale is recoded as follows: wish to stay in agriculture = 5,6,7 Otherwise = 1,2,3,4. |
| **Independent Variables** | | | |
| Suynik | Suynik | Dummy Variable | 1 = Suynik, 0 = Otherwise |
| Treatment | F4_rec | Dummy Variable | 1 = Being from the treatment area, 0 = Otherwise |
| Higher Education | High_edu1 | Dummy Variable | 1 = Higher education, 0 = Otherwise |
| Household income has decreased | HH_inc2 | Dummy Variable | 1 = Household income has decreased, 0 = Otherwise |

| Variable | Variable name | Variable Type | Description |
|---|---|---|---|
| Usage of extension service/consultation | G3_dum | Dummy Variable | 1 = Received extension service/consultation, 0 = Otherwise |
| Optimistic Assessment of at least two VCs | z1_1 | Dummy Variable | 1 = Very optimistic assessment of at least 2 value chains, 0 = otherwise<br><br>Assessment was performed on a 7-point scale (1 = very pessimistic & 7 = very optimistic). For regression analysis the scale is recoded as follows: very optimistic assessment = 5,6,7 Otherwise = 1,2,3,4. |