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**Analysis of Factors Influencing Farmers' Participation in  
Cooperatives in Western Georgia**

Master's thesis

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## **Declaration**

I hereby declare that this thesis entitled “Analysis of Factors Influencing Farmers' Participation in Cooperatives in Western Georgia” is my own work and all the sources have been quoted and acknowledged by means of complete references.

April 22, 2016, Prague

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## **Abstract**

In recent years, Georgian countryside experiences abrupt increase in number of agricultural cooperatives that are being established as a result of joint endeavour of international programs and Georgian government. For local farmers, who typically hold small plots of fragmented land, cooperatives are promoted as a tool for increase of income and poverty reduction. This study analyses all 11 newly established cooperatives in western Georgia from the point of view of their institutional typology and characteristics of their members. We also collected more elaborated data from sample of 45 members of cooperatives and 26 farmer non-members in matched control group. Using probit model we examined key factors that influence decision of farmers to become members of cooperatives. Surveyed donor-assisted cooperatives are young, functioning only about two years. Although it is too early to predict on their economic viability and sustainability, research already showed some potential challenges which can threaten their future development. Low number of members, unequal shares and income or different business orientation of members can exacerbate the existing principal agent problem or cause a leading member to suppress democratic mechanisms completely and overtake the whole enterprise. While grant contribution was typically main motivation for membership in the cooperative, high level of bonding capital and vaguely defined property rights and rules of group engagement also represent problems for further expansion of membership. Our model shows that younger male farmers with smaller plots of land, close relationship to people outside the family circle, farmers without past experiences with Soviet kolkhozes, those who have strong decisive leader inside their community and people who do not strongly identify with national government, are more likely to become members of cooperatives.

### **Key words:**

Social entrepreneurship, rural development, institutional theory, business management, motivation, social capital.

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## **List of the abbreviations used in the thesis**

ADAC	Agency for Development of Agricultural Cooperatives
CIS	Commonwealth of Independent States
ENPARD	European Neighbourhood Programme for Agriculture and Rural Development
EU	European Union
EUR	European Union currency - Euro
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
GPS	Global Positioning System
HDI	Human Development Index
ICA	International Co-operative Alliance
ILO	International Labour Organization
IOF	Investor-Owned Firm
NGO	Non-Governmental Organization
NIE	New Institutional Economics
ODK	Open Data Kit
PIN	People in Need
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USD	United States Dollar
USSR	Union of Soviet Socialist Republics
WB	World Bank
WFO	World Farmers' Organization

# 1 Introduction

Agriculture is traditionally very important sector of Georgian economy employing more than half of the country's labour force. Before Georgia got its independence, it belonged to the most productive countries of the region with strong annual growth rate and with export of agricultural subtropical products. In that time, agricultural system was dominated by large collective farms, called *kolkhozes* which were centrally controlled as extended arms of official state policy and the participation was compulsory (Couture et al., 2002). Collectivization of agriculture during Soviet era included nationalization of land and organization of production by central Soviet government (Gardner and Lerman, 2006).

The break-up of the Soviet Union was accompanied by severe shocks in the Georgian economy that caused decrease of the productivity by more than two-thirds compared to pre-crisis situation. Collapse of collectivised agricultural system resulted in dissolution of majority of cooperatives that almost ceased to exist in Georgian agriculture. Privatisation of former collective farms split the land into very small plots of national average size 1.22 ha (FAO, 2012c). These small family farms produce more than 90% of agricultural production for subsistence use because they are not able to expand their production and achieve advantages of economy of scale.

In the last few years, the renewed attention is paid to cooperatives as one of possible measures of addressing problems of small-scale farmers in Georgia. Country experiences revival of cooperative movement mainly due to international assistance to the sector. Donor community channels financial means and technical support to development of agricultural cooperatives through numerous international organizations working in the region. Furthermore, also Georgian government took steps toward the creation of enabling environment for establishment of cooperatives, such as adoption of Law on Agricultural Cooperatives which provides tax exemptions and grants for agricultural cooperatives.

Joint effort of international donors and national government resulted in creation of almost 1,000 of agricultural cooperatives during only one year between 2014 and 2015 (Misheladze, 2015). One of the aims of the thesis is to analyse all cooperatives newly established within the initial round of grant provision of the international project

implemented in Georgia in order to understand their nature, typology and operational processes and describe variation in characteristics of their members.

Despite the endeavour of donor community and local government to promote cooperatives, Georgian society is still partially burdened by socialist legacy that led to mistrust and scepticism toward the formal cooperation. Equally important goal is therefore to find out what factors prevent farmers from participation in farmers' organizations and which driving forces on the other hand are crucial for making decision to establish agricultural cooperatives.

To get general insight in the topic, the first chapter of the literature review provides definition and principles of cooperative, explanation of main types of agricultural cooperatives and overview of differences between cooperative and private firm. Section on theory of cooperatives compare neo-classical and institutional approach to cooperatives and then New Institutional Economics is described more in details as dominant cooperative paradigm. Beside core theories of cooperatives which are Transaction cost economics, Agency theory and Property rights theory, also problems intrinsic for cooperative institutional form are outlined. In the fourth chapter of the thesis we analyse general socio-economic situation in Georgia with special focus on agricultural sector in order to understand overall conditions in the country. Literature review is concluded with subchapter dealing with cooperatives in Georgia, their historical development and international and governmental support. At the end, current state of cooperatives is described setting the basis for their further analysis.

In the next parts of the thesis, we define main methods applied in the survey and deliver key empirical findings of the research. Last but not least, discussion, main conclusions and list of references used in the study are provided.

## 2 Cooperative

International Co-operative Alliance (ICA) in 1995 defined cooperative as *“an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically-controlled enterprise”* (ICA, 2015). It is essentially a business owned, used, driven and managed by its members for their mutual benefits (University of Wisconsin, 2015). Although cooperatives are businesses, their objectives include, beside maximizing the profit, also meeting needs and interests of members and complying with jointly agreed principles (FAO, 1998; FAO, 2012b). Equality, equity, solidarity, self-help, self-responsibility and democracy belong to the main values of cooperative ideology. Members of cooperative society recognize ethical values of openness, honesty, social responsibility and caring for others (ICA, 2015). Cooperatives following main cooperative ideology strongly contribute to the society as "rural schools for democracy" without state subsidies or direct support.

Following 7 cooperative principles were agreed by international community:

1. Voluntary and open membership. Nobody can be forced to participate in cooperative and, on the other hand, new members should be accepted without any type of discrimination.
2. Democratic member control. Cooperative is controlled and managed democratically by its members. Representatives of the cooperative are elected by members who have equal voting rights (one member, one vote).
3. Member economic participation. As the condition for membership in cooperative, members contribute equitably to the capital held by cooperative, part of which usually becomes common property of the cooperative. Return on subscribed capital is limited.
4. Autonomy and independence. Cooperatives are not dependent on any other entity, including governments. Their autonomy remains even if they enter into agreements with external organizations.
5. Education, training and information. Provision of education and training for cooperatives' members and other interested stakeholders and informing general

public about benefits of cooperatives belongs to the important principle of cooperatives' ideology.

6. Co-operation among co-operatives. Cooperatives aim is, besides serving to members, also to support local, national and international cooperative structures and their networking.
7. Concern for community. Cooperatives respect the community and comply with principles of sustainable development of their communities (ICA, 2015).

The sector is estimated to count about one billion members and provide over 250 mil. jobs worldwide generating USD 2.2 tril., making it important point of interest of governmental politics over the world (FAO, 2012a; ICA, 2015; ILO, 2015). The United Nations showed their considerable interest in this topic by declaring 2012 as the International Year of Cooperatives and the first Saturday of July as the International Day of Cooperatives (General Assembly, 2013). Under the topic “Cooperative Enterprises Build a Better World”, they encourage governments all over the world, also organizations and even individuals, to support establishment and further expansion of cooperatives that would contribute to overall socio-economic development, particularly to the reduction of poverty, the support of employment and the social integration (United Nations, 2012).

## **2.1 Cooperative's advantages**

Model of cooperatives appears in all sectors of economy but it is most widespread and typical in agriculture (FAO, 2012b). Cooperatives in agriculture are most often established to ensure their members access to the services which suppliers would consider to be unprofitable to provide, or in case of monopolistic power on the side of contractor (Lerman and Sedik, 2014a). These difficulties can be ranked under denomination ‘the curse of smallness’ which is, according to Abele and Frohberg (2003), *“a trap that prevents smallholders from fully exploiting their inherent productivity advantages due to barriers in access to markets.”*

Modern agriculture is characteristic by processes of privatization, decentralization and liberalization without direct involvement of government. In the condition of increasingly globalized world trade, farmers confront this situation by participation in various types of professional producer organizations to better compete. Agricultural

cooperative enables producers to realize economic benefits that they wouldn't be able to achieve alone. It enhances their bargaining power in the marketplace, reduces uncertainty concerning prices and availability of inputs and cuts down costs by pooling capital and resources. Cooperatives in general bring advantage of economy of scale by reducing the unit costs of inputs and services or by making expensive services accessible. Through horizontal integration, farmers can improve product and service quality (storing, processing), reduce risks, address common problems, develop new market opportunities or expand existing markets and improve their position on the current market (WFO, 2013).

Especially for smallholders, cooperatives are means of income increase and competitiveness achievement. Small-scale agricultural producers can benefit from better access to natural resources, information, technologies, credit, training or contracts. Also, they might gain security in land-use rights which is very important mainly in countries where land reform is incomplete or unsolved. These all advantages of membership in cooperatives improve smallholders' livelihoods and contribute to overall socio-economic development and poverty reduction because prosperous smallholder sector is cornerstone of an agriculture-for-development strategy (FAO, 2012b).

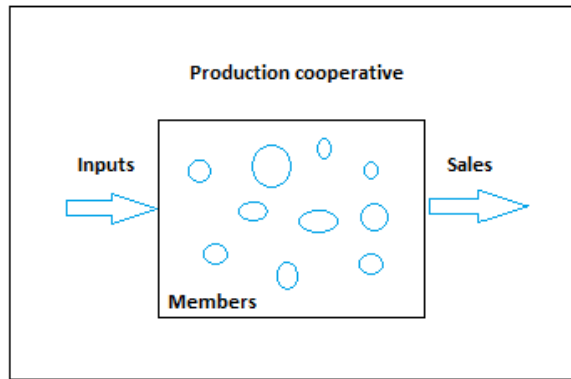
## **2.2 Types of cooperatives**

Cooperatives are usually broadly distinguished on production, service and consumer, based on their functions and characteristics. For the purpose of this work, only cooperatives commonly occurring in agricultural sector and relevant for Georgian environment are described.

### **2.2.1 Production cooperatives**

Members of production cooperatives are typically engaged in the production process working inside the cooperative and so they do not operate as independent entities (see Figure 1). Farmers cultivate their production using collectively held resources, whether it is land, machinery or other assets, and together they sell the output to a third party (Lerman, 2013; Lerman and Sedik, 2014a). Revenues and surpluses are then redistributed between the members-farmers. Although it can seem that grouping of production factors leads to the economy of scale and, therefore, it is very favourable,

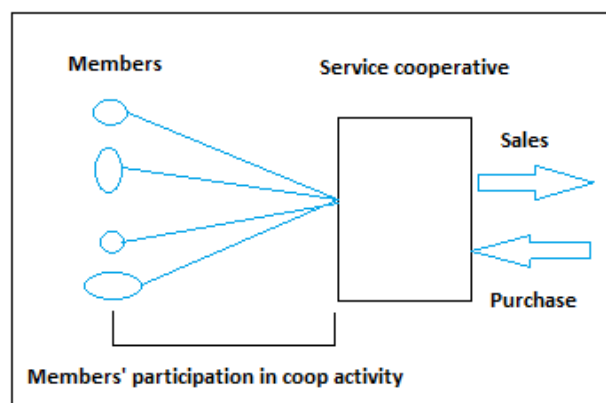
rather the opposite is true. Due to unwillingness or inability to save and later invest common financial resources and other problems of inefficiency, production cooperatives present only minor type and accounts about 5% of all cooperatives in the world (Lerman, 2013; Lerman and Sedik, 2014a).



**Figure 1: Schema of production cooperative**  
(Lerman, 2013)

### 2.2.2 Service cooperatives

Agricultural service cooperatives purchase goods and services from various markets and for advantageous prices they resell these services to members-producers who cultivate, produce and operate independently with individually owned assets and land (see Figure 2). Members are legally autonomous entities and they can, but are not forced to, sell all their production to cooperative. Cooperative can purchase production from non-members as well and then sell it to outside customers. Members can be employed to perform cooperative's activity, but mostly it is conducted by non-members (Lerman, 2013; Lerman and Sedik, 2014b).



**Figure 2: Schema of service cooperative**  
(Lerman, 2013)

According to the western cooperative paradigm, services cooperatives operating in the agricultural sector can be divided based on provided services into:

- **marketing cooperatives** that collect members' production and sell it on behalf of members at better terms or at a larger market than farmers would be able to achieve by themselves,
- **processing cooperatives** buying members (sometimes also non-members) production for processing at a fair price set in advance,
- **input supply cooperatives** that provide members with inputs (seeds, fertilizers, feed, chemicals, etc.) and/or specialized services (veterinary medicines, artificial insemination) for better prices and terms beneficial to members because of a bigger scale of purchase,
- **machinery cooperatives** sharing machinery owned by members in case of bigger or more expensive equipment that couldn't be bought by individual farmers, and
- **extension and information management cooperatives** offering expertise trainings, seminars, exchange of experience, etc. by hired experts (Lerman, 2013; University of Wisconsin, 2015).

Service cooperatives, the largest and most typical category of cooperatives, are much more successful in the market economy compared to production ones. They dominate markets for farm products and farm inputs in North America, Western Europe, Japan, and South-East Asia (Lerman, 2013). In some of the northern and western countries of the European Union (Sweden, Denmark, Ireland), on average 60% of farms' input is purchased from cooperatives and about 75% of producers' output is sold through them (Lerman and Sedik, 2014b).

### **2.3 Differences between cooperative and investor-owned firm**

Cooperative, the same as investor-owned firm (IOF) or Shareholder Corporation, is a legal entity. However, the primary objectives of these entities fundamentally differ, as listed in Table 1. (Lerman and Sedik, 2014b). While corporations aim in the first place to maximize profit, cooperatives rather seek to empower people and collectively realize their economic aspirations, strengthen social and human capital and develop their communities (ICA, 2015; Lerman and Sedik, 2014b).



**Table 1: Comparison of Cooperative and Investor-Owned Firm**

(Pischke Von and Rouse, 2004)

<b>Features</b>	<b>Cooperative</b>	<b>Investor-owned firm</b>
<b>Objectives</b>	Service to members; Collective action; Members' participation in democratic processes; Empowerment	Profit; Competitive power; Survival
<b>Ownership</b>	By members who join primarily to use services; Emphasis on member patronage (usage) rather than investment	By investors who may or may not be involved in the operation of the enterprise
<b>Control</b>	One member, one vote, regardless of shares held; Elected members constitute the board; Government oversight and intervention in many countries	One share, one vote; Board members and managers are not necessarily shareholders
<b>Nature of Subscribed Capital</b>	Shares purchased and redeemed at par; Redemption may be time-consuming; Capital revolves as new members join and old members leave; Member shares may be issued for patronage; A low cost source of finance	Shares are negotiable (bought and sold freely, unless otherwise agreed by share-holders) but not redeemable; Price determined by negotiations between buyers and sellers or through bid/offer transactions; The most expensive source of finance because it bears the most risk
<b>Financial Structure</b>	Members' shares often dominate where credit is difficult to obtain; Dominated by debt when foreign or government loans are readily available; Varies by type of industry or activity	Varies by industry and by firm; Influenced by financial markets' expectations of risks and returns or profits
<b>Value of Investment by Owners</b>	Redeemable value of shares plus savings from favourable prices offered by the cooperative on services used by the member	Market value of shares (with an expectation of increasing value over time)
<b>Distribution of Net Income</b>	In proportion to member patronage or use of coop services measured in financial terms	In proportion to shareholding
<b>Return on Owners' Investment</b>	Return on shares, limited by law, tax considerations or by custom; Benefits from use of services provided	Dividends as decided by the Board of directors, plus appreciation or depreciation in share values, depending on performance and financial market conditions

## **3 Theory of cooperatives**

### **3.1 Neoclassical economy**

First scientific research on agricultural cooperatives used neoclassical theory paradigm to analyse efficiency of cooperatives by traditional marginal analysis (Ortmann and King, 2007). The profit-maximizing behaviour of abstract firms and utility-maximizing behaviour of homogenous consumers in the neoclassical economic paradigm is based on assumptions about frictionless exchange process in which adjustment and transaction costs are zero, meaning property rights are perfectly specified and costless and information are costless as well (North, 2009; Royer, 1999; Royer, 2014). Theory also assumes rational choice of actors who possess perfect cognitive system that provide true models of world in which they make choices. Perfect competition of many similar actors results in equilibrium and optimal distribution of resources (North, 2009). Cooperative specific assumptions were defined by Sexton (1995) as follows: the cooperative accepts members' entire production; uniformly treated members act as price-takers in dealings with the cooperative and they have to deliver their entire production to the cooperative.

### **3.2 New Institutional Economics**

Past few decades can be characterised by quick changes in economic environment that reflect mainly rapid globalization and increasing agricultural industrialization. (Ortmann and King, 2007; Royer, 1999). These fundamental changes caused reconsideration of cooperatives as institutions which are basically contradiction to a free market. Theory of the IOF was therefore found to be inadequate for understanding of the economic behaviour of cooperatives (North, 2009; Royer, 2014). Criticism of the neo-classic paradigm focuses on main assertion that firms maximize profits. Economists usually reject this assumption and ascribe other objectives to cooperatives, including maximization of members' or patronage refunds, maximizing rate of growth, sales and minimization of costs or also maximization of welfare (Kvariani and Ghvanidze, 2015; Royer, 1999; Royer, 2014). New economic methods eliminate also some of unrealistic conditions of the model by considering utility maximization, positive transaction and information costs and alternative property rights structures (Royer, 1999).

Three distinct but related theories have been developed to analyse organizational forms and their relationships within the market system. They are Transaction cost economics, Agency theory, and Property rights theory, collectively labelled as New Institutional Economics (NIE) or also neo-institutional economics as they focus on institutions and institutional constraints rather than on firms (Kvariani and Ghvanidze, 2015; Royer, 1999; Royer, 2014; Sykuta and Chaddad, 1999). Most of recent researches built on these three methods when analysing cooperatives.

### **3.2.1 Transaction cost economics**

Costs of transacting are the costs of organizing and transacting exchanges (Royer, 1999). They consist of the costs of measuring the attributes of the good or service that is being exchanged, including search and information costs, bargaining and decision costs, and the costs of defining, protecting and enforcing property rights and policing and enforcing agreements (North, 2009; Ortmann and King, 2007).

As written by North (2009), transaction costs were firstly defined by Ronald Coase in his essay “The Nature of the Firm” (1937) who further developed the concept of institutions in “The Problem of Social Cost” (1960). Coase asked why most of the economic activity is carried by formal institutions and not individual actors if, under assumptions of neoclassical theory, market perfectly allocates resources. He found out that transactions are inefficient and expensive in a real world of imperfect information and “when it is costly to transact, institutions matter” (North, 2009; Royer, 1999). High transaction costs therefore motivate actors to coordinate business within a firm instead on spot market (Ortmann and King, 2007; Royer, 1999). Measurement and enforcement costs of transacting are, thus, the sources of social, political, legal and economic institutions (North, 2009; Ortmann and King, 2007).

Transaction cost theory is perfectly applicable on agricultural cooperatives. The final quality of production is difficult to assess for individual farmers as they are not able to compare their output with similar products on the market. They face information asymmetry which makes them vulnerable (Nilsson, 2001). Other obstacles to individual farming and marketing of the product come from holdup problem and opportunistic behaviour that is associated with asset fixity. Agriculture typically produces perishable commodities which need to be sold on time to prevent their

spoilage. If there are no alternative buyers for the product on the market, processor/trader can refuse to buy the production in order to force the producer to accept lower price (Ortmann and King, 2007; Royer, 1999). In both cases, selling through local traders can place farmers into unfavourable exchange conditions where they come up against a monopsonist competition. But if farmers participate in cooperative, they basically own the trading partner which reduces transaction costs and enables to farm in small scale and process in large scale via joint ownership in the form of a cooperative (Nilsson, 2001).

### **3.2.2 Agency theory**

Agency theory deals with agency relationships which “exist whenever one individual, called the agent, acts on behalf of another, called the principal” (Royer, 1999). Main assumption of the theory is that agent possesses superior knowledge which enables him to act opportunistically against the principal, called information asymmetry (Nilsson, 2001). Objectives of the agent usually do not match those of the principal and therefore agent sometimes does not represent the interest of principal (Ortmann and King, 2007; Royer, 1999; Sykuta and Chaddad, 1999). This situation is called agent-principal problem. Even though the terms of contract between principal and agents are stated in the contract, the incompleteness of contracts as explained in transaction cost economics predetermine possibility of shirking because of moral hazard and imperfect observability (Ortmann and King, 2007; Royer, 1999). Agency theory thus focuses mainly on different incentives of agents when making decision and on measurement problems and risk-sharing (Kvariani and Ghvanidze, 2015; Mahoney 1992 in Royer, 1999; Ortmann and King, 2007).

Principal-agent problems apply to cooperatives to even greater extent than to IOFs. Fama (1980) cited in Richards et al. (1998) state that while firm is subject to continual performance assessment, cooperative has no market for its equity, so owners have less incentive to monitor their managers. Also, managers of the firm are being rewarded based on the financial performance of the organization but cooperative’s objectives go beyond the profitability goals to provision of service or information so managerial compensation schemes is more difficult to be appropriately set up (Richards et al., 1998). Jensen and Meckling (1976) in Sykuta and Chaddad (1999) suggest

correcting the agency problem by the more adequate composition of ownership shares between members of cooperative and managers who are employees of the cooperative.

### **3.2.3 Property rights theory**

“Property rights are the rights individuals appropriate over their own labour and the goods and the services they possess” as defined by North (2009). Demsetz (1967) in Ortmann and King (2007) adds that clearly defined and enforceable property rights are essential for any type of human cooperation involving agreement. Based on transaction cost economics, contracts are incomplete due to bounded rationality, the asymmetry of information between trading parties and/or because it is not possible to verify all parties' performance and state of the world (Ortmann and King, 2007; Royer, 1999; Sykuta and Chaddad, 1999).

Obviously because of positive transaction costs, some rights to resources are not fully assigned which can have significant consequences for behaviour, performance and sustainability of cooperatives (Ortmann and King, 2007; Royer, 1999; Sykuta and Chaddad, 1999). Contrary to IOF, cooperative organizational form is predisposed to vaguely defined property rights because of problems with separation of ownership and control of cooperative (Nilsson, 2001). Clearly defined property rights can help the cooperative to correct market failures, to avoid problems intrinsic to cooperative institutional form and to become sustainable producer-controlled organization. (Kvariani and Ghvanidze, 2015; Nilsson, 2001; Ortmann and King, 2007).

### **3.2.4 Problems inherent in cooperatives**

Within the context of neo-institutional economics, cooperative institutional form brings not only the advantages but also very specific problems that create difficulties for cooperatives and their members. Typically listed disadvantages caused by vaguely defined property rights in traditional cooperatives include the free-rider problem, the horizon problem, the portfolio problem, the follow-up problem and the influence costs problem (Nilsson, 2001; Ortmann and King, 2007; Royer, 1999).

### **Free-rider problem/Problem with common ownership**

Free-rider problem is the problem of common ownership of assets emerging when property rights are not tradable or they are not properly defined and enforced (Kispál-Vitai et al., 2011; Ortmann and King, 2007). It occurs in the case when individuals gain benefits from investment they did not fully contribute to (Karantininis and Nilsson, 2007). Free-rider problem also appears inside the cooperative if new members already profit from the cooperative benefits although they did not pay the entrance fee yet. On the other hand, non-members can profit from cooperative services without sharing the costs which is problem of common ownership outside the cooperative (Baourakis, 2004; Nilsson, 2001; Ton et al., 2007). In other words, certain market mechanisms do not function well (sub-optimal allocation of resources) since economic actors do not have to bear full consequences of their action (Nilsson, 2001). Cook and Iliopoulos (1999) in Baourakis (2004) suggest to solve the problem by restricted membership and detailed arrangement regarding quality and quantity of production.

### **Horizon problem**

In the situation that cooperative makes an investment which pays off in long term so some members will not receive all possible benefits due to their retirement horizon, problem arises (Baourakis, 2004; Nilsson, 2001; Ton et al., 2007). Since residual claims are distributed to members as current payments, members' benefits from investment are limited to the period over which member expect to patronize the cooperative (Ortmann and King, 2007; Royer, 1999). Therefore, cooperatives tend to under-invest in assets that are profitable in the long-run. To overcome this problem cooperative is supposed to make stocks in the capital clearly valued and transferable (Baourakis, 2004; Ortmann and King, 2007; Royer, 1999).

### **Portfolio problem**

Portfolio problem concerns the problem with investment as well. It appears when members cannot adjust their share (investment) into the cooperative to their risk preferences. If risk is higher than individual members' threshold, it can lead to risk avoidance behaviour (Ton et al., 2007). Furthermore, in case of cooperative, there is no market for equity shares so the members cannot diversify their investment.

In consequence, members lose their willingness to invest into the cooperative or they push the Board of directors to reorganize investment portfolio to reduce the risk even if this means lower returns for the cooperative (Karantininis and Nilsson, 2007; Ortmann and King, 2007). Cooperative can target this problem e.g. by focusing on only one product (Baourakis, 2004).

### **Follow-up/Control problem**

Control problem is basically principal-agent problem occurring every time owners of the cooperative have problem to ensure that management follows their interest (Karantininis and Nilsson, 2007). As written above, equity shares in the cooperative generally cannot be freely purchased or sold, thus, market do not send signals about optimal business decisions so owners are not able to properly evaluate accuracy of managers' action and there is no market pressure on management (Karantininis and Nilsson, 2007; Kispál-Vitai et al., 2011; Royer, 1999). Owners should closely monitor the management which can be even easier for cooperatives that are relatively small, with homogenous membership than for typical IOFs (Ortmann and King, 2007).

### **The influence cost problem/The decision maker problem**

Taking into account the cooperative is the most democratic business form with one member one vote rule in case of heterogeneous cooperatives, problem of different interest among members can appear (Karantininis and Nilsson, 2007; Kispál-Vitai et al., 2011). The influence costs are associated with costs consumed on activities in which members attempt to influence the decision that affect the distribution of wealth or other benefits within the cooperative (Karantininis and Nilsson, 2007; Royer, 1999). Costs can include both direct costs to influence the decision and costs of distortion caused by poor decision regarding allocation of resources (Ortmann and King, 2007). Depending on degree of members' homogeneity and procedures governing decision making process, cooperatives can be more likely to have higher influence costs than other organizational forms (Royer, 1999). Central authority with ability to influence the distribution of costs and benefits to members and properly set governing procedures may contribute to minimization of the problem (Ortmann and King, 2007).

## 4 Georgia

Georgia, in local language called "Sakartvelo", is largely mountainous country located in the Caucasus region, with an area of 69,700 km<sup>2</sup> (Bondyrev et al., 2015; USAID Georgia, 2011a). Great Caucasus Mountains create natural borders with Russia on the north, while Lesser Caucasus Mountains separate Georgia from its southern neighbours - Turkey, Armenia and Azerbaijan. The biggest lowland Kolkhida extends from the central part of the country to the west where Georgia has access to the Black Sea giving the advantage of income from easy transit to Eastern Europe (FAO, 2012c; Gachechiladze, 1995). Main rivers include Mtkvari and Rioni (Bondyrev et al., 2015).

For the most of the 20th century, Georgia has been Soviet Socialist Republic as part of the Soviet Union. In 1991, it declared independence and became parliamentary semi-presidential republic (Bondyrev et al., 2015). Country is divided into 9 regions, 2 autonomous republics Abkhazia and Adjara, autonomous region of South Ossetia and capital city of Tbilisi. Kutaisi, Batumi, Rustavi and Zugdidi belong to the other important big cities (Bondyrev et al., 2015; FAO, 2012c).

In 2014, population of Georgia was 4,504,100 (without Abkhazia and South Ossetia) giving the population density of 64.6 inhabitants per km<sup>2</sup> (World Bank, 2015). Slightly more than half of the population (53.7%) lives in cities and half of them inhabits country's capital (Geostat, 2015b). Main ethnic group are Georgians, representing 83% of the population. Among ethnic minorities prevails Azerbaijanis (6.5%) and Armenians (5.7%), then Ossetians, Abkhazians, Greeks, Kurds and Jews. Official language is Georgian but Russian, Armenian and Azerbaijani are other languages spoken by different ethnic groups. Orthodox Christianity dominates over other religions in the country. However, due to Georgia's geographical position on the crossroad between Europe and Asia, Catholic Church and Islam are represented in the country as well (Bondyrev et al., 2015).

Georgia experienced fundamental economic progress in Soviet era. It basically fulfilled the needs of Soviet Union in terms of machinery, electronics and agricultural production and it also served as tourist destination for Soviet tourists. Nevertheless, after the collapse of Soviet Union, it became clear that most of these industries are uncompetitive on the global market. Thus, in 90's Georgian economy was trapped into



deepest crisis in the history. Although some recovery in ferrous and nonferrous metallurgy, chemical, electricity, tea, wine and mineral water industry has appeared in recent years, structural changes are tremendous and formerly significant key industries (light industry, machinery-building and wood-manufacturing) catastrophically declined (Bondyrev et al., 2015).

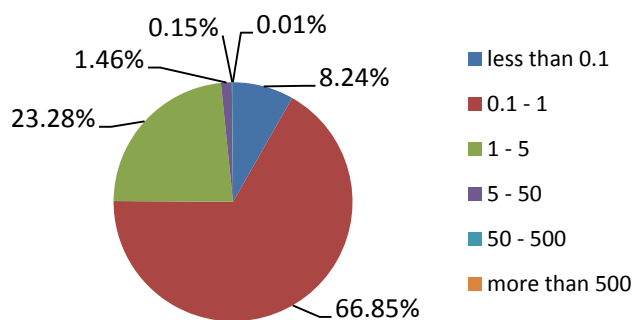
Georgia's GDP per capita as of 2014 is 3,667 USD per year ranking it among lower middle income countries. In 2012, about 14% of population lived in absolute poverty calculated as percentage of population living for less than 1.25 USD per day (World Bank, 2015). Out of 2.4 mil. economically active population, 14% is unemployed and most of the labour force is classified as self-employed (World Bank, 2015). Despite relatively weak indicators of economic development, Human Development Index in 2014 was 0.754 positioning Georgia among high human development category mainly because of relatively high life expectancy at birth (74.9) and almost 14 expected years of schooling. Furthermore, values of all HDI components improves in long-term (UNDP, 2015).

#### **4.1 Agriculture in Georgia**

After the collapse of the Soviet Union and following civil war and economic regress, Georgia is again predominantly agricultural country with almost half of the population living in rural areas (FAO, 2012c). Arable land covers more than 3 mil. ha (about 43%) of country's territory. Subtropical climate dominating major part of the territory creates great conditions for producing broad variety of agricultural crops (Bondyrev et al., 2015; Ministry of Agriculture of Georgia, 2015). During the Soviet period, Georgian agriculture belonged to the most productive in the Soviet countries with strong annual growth rate and export of high value products exceeding import by 70% (Bondyrev et al., 2015; FAO, 2012c). However, as written above, since independence at the beginning of 90's the economy went through severe shocks bringing decrease of the productivity by more than two-thirds (Millns, 2013). Reduction of sown area as well as decrease of overall agricultural production caused dependency on import, which exceeded one bn. USD in 2013, and decline of self-sufficiency ratio of almost all types of products (Ministry of Agriculture of Georgia, 2015). In 2014, agriculture employed more than 50% of country's labour force but it contributed to total

GDP by only 9.2% lagging well behind other sectors of the economy (World Bank, 2015). As a results of rapid liberal economic policies of former government, rural areas now show 30% higher poverty rate than urban ones and the general inequality in income distribution has also increased in recent years<sup>1</sup> (EU, 2013).

Low productivity and weak competitiveness of agricultural sector can be attributed to obstacles in accessing new land, lack of modern know how and appropriate technologies, high costs of imported inputs, absence of modern extension services, expensive capital, deteriorating infrastructure and land fragmentation. Especially land fragmentation has far-reaching effects (FAO, 2012c; Millns, 2013; USAID Georgia, 2011a). Unsystematic and abrupt land privatization of large state-controlled kolkhozes in 90’s resulted in creation of thousands small family farms of national average size 1.22 ha. About 90% of all farms cultivate plots of land smaller than 2 ha (see Figure 3) and small farmers typically own 2 cows (ENPARD, 2015; FAO, 2012c). Furthermore, one hectare of land owned by households is usually divided into 2-3 parcels which makes it even more difficult to organize intensive agricultural production without land consolidation (Ministry of Agriculture of Georgia, 2015). Small farmers produce almost 90% of agricultural output as subsistence farming because they are not able to deliver their products into modern food supply chains which require stable supply at standardized quality (USAID Georgia, 2011a; EC/FAO, 2012). Therefore, there is a systematic mismatch between small farmers looking for buyers and bigger retailers looking for reliable suppliers.



**Figure 3: Distribution of land according to the area (ha)**

(Ministry of Agriculture of Georgia, 2015)

<sup>1</sup> The value of GINI index was 0.41 as of 2012 (World Bank, 2015).

## 4.2 Cooperatives in Georgia

### 4.2.1 History of cooperatives and mental block

Georgia, similarly like other countries of Commonwealth of Independent States (CIS) and Central and Eastern Europe states, has a long tradition of cooperatives already in the 19th and beginning of the 20th century (Lerman and Sedik, 2014a). However, during the Soviet era the original idea of bottom-up self-help small farmers associations dramatically changed from voluntary marketing, service or credit cooperatives to production collective farms. The Soviet model of agriculture dominated by cooperatives was automatically imposed by USSR on Georgia as well as other Soviet countries after the World War II (Lerman and Sedik, 2014b). Collectivization of agriculture included nationalization of land and organized production in large-scale horizontally integrated entities (Gardner and Lerman, 2006). Kolkhozes were centrally controlled as extended arms of official state policy, poorly managed and the participation was compulsory (Couture et al., 2002). Break-up of the Soviet Union resulted in collapse of collectivised agricultural system whereas cooperatives of any type in Georgia almost ceased to exist (ENPARD, 2015; Ministry of Agriculture of Georgia, 2014). Several authors (for example ENPARD, 2015; Gardner and Lerman, 2006; Lampi, 2012) show that until today, cooperatives continue to be negatively associated with the Soviet-era collective farms and farmers and general public still feel distrust and opposition to them in the form of so called “mental block”. Many farmers do not perceive difference between state-controlled, old-collective production-type kolkhozes and modern member-owned, -controlled and -used farmers’ groups which serve mainly as agricultural marketing cooperatives (Lerman and Sedik, 2014b; EC/FAO, 2012). Gardner and Lerman (2006) literally write: *“The use of the word “co-operative” in Central and Eastern Europe will not only create the wrong impression, it will also create barriers to progress.”*

Preconditions for cooperation and institutional creation can be studied also with the use of concept of the social capital. Analysis of bonding and bridging constructs of social capital in Georgian environment is thoroughly provided for example in research of Buschmann (2008) or USAID Georgia (2011a;b). Based on their findings, we can learn that there are extremely strong bonding ties in Georgia which indicate close

relationships among family, relatives and friends. On the other hand, bridging capital representing willingness to cooperate with strangers is relatively low. This basically predetermine tendency to rely on acquaintances in matter of small family business rather than cooperation with members of broader society in institutionalized way.

#### **4.2.2 International assistance to cooperatives**

The first organized efforts to revive the cooperative sector and boost modern agricultural cooperatives in Georgia appeared in 2012 with the assistance of international organizations and donor community. First organizations aiming to support horizontal integration of farmers included USAID, OPTO International, the Swiss Agency for Development and Cooperation (SDC), Denmark's Development cooperation (DANIDA) or Czech Development Agency (CzDA) which all started individual projects and wider programs on rural livelihood improvement through promotion of cooperatives (FAO, 2012c; Millns, 2013). Only few cooperatives were established without any donor support. Most of the recent development in cooperative's sector has been driven by international projects with donor contributions ranging from 5,000 to 120,000 EUR (Millns, 2012).

By far the biggest recent programme for agricultural sector development with cooperation component is EU European Neighbourhood Programme for Agriculture and Rural Development (ENPARD). Consortium of four non-governmental organizations – CARE International, Mercy Corps, OXFAM and People in Need plans to establish about 160 agricultural cooperatives in 45 districts of Georgia during five-year period of 2013-2018. In addition, UNDP works in the same field within the ENPARD programme in autonomous area Adjara. Total EU budget of 52 mil. EUR is used for direct support for cooperatives' formation, for direct support of national agricultural budget, technical assistance and for strengthening the capacity of national and regional state institutions (ENPARD, 2015; FAO, 2012c; Millns, 2013).

#### **4.2.3 Governmental support of cooperatives and legal environment**

Unlike the previous government which promoted laissez-faire economic system and non-interference into agricultural sector, current Georgian government actively supports development of agriculture. It recognized importance of horizontal integration of small farmers in the form of cooperatives and took several steps toward the

development of enabling environment (Government of Georgia, 2013). Ministry of Agriculture of Georgia adopted Strategy for Agricultural Development for the period 2014-2020 which provides basic framework for promotion of cooperatives within the specific strategic measure 1.6 “Support the development of farmer group organizations” under the strategic objective 1 “Enhance the competitiveness of farmer and rural entrepreneurs”. The document envisions revision and update of legislation, creation of campaign on awareness rising, provision of specialised extension services and facilitation of special incentive tools including matching grant contributions and possibilities for tax exemptions (ENPARD, 2015; FAO, 2012c; Lampi, 2012; Ministry of Agriculture of Georgia, 2014).

In 2013, based on recommendation of FAO and EU, the Georgian National Parliament adopted the Law of Georgia on Agricultural Cooperatives, which together with older Law on Entrepreneurs create basic legal framework. In the same package, there were several amendments to related legislation for agricultural cooperatives’ tax exemptions and grants provision (Government of Georgia, 2013). The Law of Georgia on Modifications and Amendments to the Tax Code of Georgia gives tax exemption to agricultural cooperative members’ contributions (interest) and received grants. Agricultural cooperatives also do not pay tax from profits earned from a primary supply of agricultural products made in Georgia before their industrial processing. They are exempted from tax on property (except land) owned by an agricultural cooperative, used in agricultural activity and movable property leased to it for the same activity before 1 January 2017 (ENPARD, 2015; Lampi, 2012; Lerman and Sedik, 2014b; Government of Georgia, 2010).

At the same time, also the special state Agency for Development of Agricultural Cooperatives (ADAC) has been newly established within the system of the Ministry of Agriculture of Georgia. Its main aim is to develop viable cooperation in Georgia. Following measures belong to the main competencies of ADAC:

- to take government support measures for agricultural cooperatives;
- to prepare proposals and recommendations to promote and develop agricultural cooperatives;
- to provide consultation to agricultural cooperatives;
- to create a database on the activity of agricultural cooperatives;

- to grant and terminate the status of an agricultural cooperative;
- to cooperate with the International Co-operative Alliance (ICA), international organisations, and cooperative associations of other countries;
- to support the training and re-training of staff for agricultural cooperatives, as well as upgrading professional skills for the management staff of agricultural cooperatives;
- to organise scientific-practical conferences, exhibitions, seminars, and meetings to exchange experience and information in the field of agricultural cooperation; and
- to monitor the activity of agricultural cooperatives (Government of Georgia, 2013).

Although Georgian government made considerable effort in promotion of cooperatives in recent years, still there are some legislative issues that need to be clarified and simplified. The two-step registration process requires agricultural cooperatives to be firstly registered as legal entities and then they can register at the ADAC which grants the status of agricultural cooperative. ADAC can inter alia terminate the status of agricultural cooperative but the rules for this action are not well specified, thus, simplicity and transparency of legal environment decreases (Lerman and Sedik, 2014a; Government of Georgia, 2013).

#### **4.2.4 Current situation of cooperatives**

Joint effort of international donors and national government led to unprecedented growth of agricultural cooperatives in the country. While in the mid of the 2014 only 100 agricultural cooperatives were registered at the ADAC, one year later the number was ten times higher (Misheladze, 2015). However, one of many challenges of sound and sustainable growth of Georgian agricultural cooperatives' sector is number of members per cooperative, when average number decreased during 2014-2015 period from 10 to 6. This is extremely low number for efficient business-oriented organization enabling economies of scale for small farmers. Therefore, the political debate on increasing the threshold of minimum number of members from 5 to 11 has just started (Misheladze, 2015; Government of Georgia, 2013). Moreover, some authors (see for example Millns, 2013) together with development specialists conclude that the majority of cooperatives has about 50% of passive members who register just in order to fulfil the obligatory quotes on number of members set by donors. Key founding members

sometimes take over the management and control of cooperatives which lead to limited compliance with democratic principles, non-transparent decision-making and creation of individual IOFs masked as cooperatives (Fulton and Giannakas, 2007; Lampi, 2012). Dominance of leading members is evident from unequal distribution of shares in favour of few individuals. Among major problems of institutionalized cooperation, Lampi (2012) sees improper understanding of the role and potential benefits of modern agricultural cooperatives, lack of good examples of functioning producers' organizations and also farmers' limited experience in open market economy. Other organizational problems faced by Georgian cooperatives, as for example lack of management competencies and experiences among members of the Board of directors or poorly developed governing principles, are documented in Baramidze (2005) or Millns (2012; 2013).

Abrupt increase in inefficient small cooperatives most likely indicates that decision to establish producer group has been driven by expectation of financial support of any sort and potential access to capital or trainings, rather than by self-initiative, proper business vision or community-based need for collective action built on sound economic grounds. These cooperatives, which register themselves with only motivation to qualify for financial support, are called “false” or “sleeping” cooperatives and represent likely threat to the whole Georgian cooperative sector. Their commercial and financial sustainability after termination of projects is highly questionable (Lerman and Sedik, 2014a; Millns, 2013). FAO (2012c) states only less than 20% of cooperatives established with heavy guidance and dependence on donors showed significant activity after project termination. In Georgian context, there is an example of five agricultural cooperatives created by the Czech government intervention which did not survive more than one year after the termination of the project (Černá et al., 2012). Analysing patterns and similarities among newly created Georgian cooperatives might provide some understanding on likelihood of their survival.

## 5 Aims of the Thesis

Cooperative sector is nowadays again important topic for the international community and donor interventions, since most of the poor live in countryside and cooperatives are believed to be one of the ways of poverty reduction, democratization and overall socio-economic development of rural areas. However, in order to effectively capture advantages of horizontal integration, various enabling factors need to be set up to facilitate formation of self-initiative sustainable producers' organizations.

First of all, this study provides typology of possible institutional combinations of newly established agricultural cooperatives resulted from external intervention. In contrast to the most already conducted studies, our research consequently analyses both driving forces and barriers to social entrepreneurship's development from the external as well as internal point of view. This means the factors cover the socio-economic characteristics of individual farmers and their relationships in the community as well as overall political situation with regard to the national legislation and international donor's activities. Specific added value of the research lies mainly in complexity of combined factors.

The results might serve as a contribution to the ongoing discussion on the proper settings of participants, knowledge, resources and external incentives for successful establishment of cooperatives. It can provide valuable information to national governments regarding the taxation, legislation, public services, etc. in order to create enabling conditions for farmers' cooperation. Findings of the research can be beneficial also for international donors' community and other organizations working with cooperatives to effectively adjust their projects in favour of successful formation of cooperatives. Support of self-help groups in the sustainable manner, meaning that cooperatives report regular operations and provide planned benefits to members even after the project termination, should be the main objective of all programs and the research aims to contribute to this goal by delivering theoretical foundation.



The specific objectives of the research were structured as follows:

*1<sup>st</sup> objective:* To create typology, describe the most common institutional forms and explain diversity among newly established cooperatives in Imereti region in the western part of Georgia with the aim to better understand the nature and link between the process and results of external interventions.

*2<sup>nd</sup> objective:* To analyse internal and external factors crucial for decision of small Georgian farmers to trade their individual preferences with group aims and to join the cooperatives.

## **6 Methods**

This study builds on survey type of mixed research and first-hand experience through personal interviews of authors with members of cooperatives. The research design borrows from both - quantitative and qualitative methods employing convergent parallel mixed method of research (Creswell, 2014). This allowed for triangulation of quantitative and qualitative data and better interpretation of results. For qualitative part of the research, we use the cross-sectional non-experimental type of design based on complete population of members of newly established cooperatives in Imereti region of Western Georgia. In order to study factors influencing farmer's decision to join a cooperative, we use design including main research group of members of cooperatives with control group of farmers who has intended but after all not joined a cooperative for various reasons. Partial matching strategy without randomization has been employed. The pilot research was organized in July, 2015 conducted with 12 respondents, 7 members of cooperatives and 5 farmers from reference group. Later, the methodology of the research was revised and adjusted to local conditions with main data collection in October - November 2015.

### **6.1 Background research**

#### **6.1.1 Country unspecified researches**

Various studies focus on identification of main factors influencing establishment of cooperatives in agriculture. For example Garnevska et al. (2011) in her work investigated two cases of farmer cooperatives in Northwest China to find out that stable legal environment, a dedicated initiator and leader, government financial and technical support, farmers' understanding and participation in cooperative activities and appropriate external support from professional NGOs are the key factors for the successful development of farmer cooperatives.

While Garnevska et al. (2011) used qualitative methods and more macro-economic attitude in her research, several other authors examined the topic via quantitative micro-economic approaches. Pascucci and Gardebroek (2010) studied inter alia factors of cooperatives' formation on the case of Italian farmers. Among individual factors showing significant positive impact on farmers' decision to become a member of

cooperative they rank following: high concentration of cooperatives relative to number of private processors, location of farms in the area where the local economy is dominated by agricultural activities, settlement in more remote mountainous areas where agriculture is most relevant activity, lower specialization of farmers, on-farm processing, more modern and viable farms and higher inclination to agricultural and social related networking.

Zheng et al. (2011) under one objective of the research also presented factors that affect farmers' behaviours in joining Chinese agricultural cooperatives. As a result of binary probit analysis, they classify higher education level, high agricultural production costs, sales difficulties, lack of labour during busy times, future planting plan to enlarge operation and anticipated risks of agricultural production as having significant positive impact on membership in cooperatives. Authors found out that producers of cash crops, vegetables and fruits have a higher likelihood to join cooperatives than grain farmers. Negatively influencing significant factors are larger size of planting area and low current prices of agricultural production.

Ogunleye et al. (2015), Nkurunziza (2009) and Nugussie (2010) focus more specifically only on socio-economic and organizational factors affecting farmers' participation in horizontal integration in Africa. Ogunleye et al. (2015) conducting research in Nigeria consider management and leadership problems, limited memberships, insufficient fund and low level of education as the main problems influencing against participation in cooperatives. On the other hand, on African example from Rwanda, Nkurunziza (2009) found different conclusions. Author identifies interestingly higher education level as the main constrain hindering cooperation of coffee farmers. At the same time, female headed households and large farms tend also not to cooperate so often. Main driving forces of establishment of agricultural cooperatives is higher off-farm income, better access to credit, keeping farm records and trust among farmers. Nugussie (2010) examined cooperative in Ethiopia and confirms male headed households are more willing to join agricultural cooperatives head. Based on author's results, other influencing variables are membership in rural associations, attendance of public meeting and/or workshop, membership in administrating committees, accessibility to credit services, exposure visits and training access, number of family sizes, family members in secondary school and information access.

### **6.1.2 Studies conducted in Georgia**

Certain aspects which affect cooperation cannot be derived from different environments of China, Italy or Central Africa since they have country-specific nature. Studies that focused on investigation of obstacles to Georgian cooperation (Buschmann, 2008; Lampi, 2012; Lerman and Sedik, 2014a; Teres and Bondarchuk, 2015; USAID Georgia, 2011a;b) agree on negative influence of Soviet legacy and “mental block”. Buschmann (2008) and USAID Georgia (2011a;b) highlight poorly developed social capital as another important factor negatively affecting cooperation in the Georgian environment. Buschmann (2008) also find out other problems like distrust of general population toward the state authority, lack of financial and credit resources and unsustainable one-sided assistance of international donors. This confirms Lampi (2012) who in accordance with Teres and Bondarchuk (2015) adds organizational and human obstacles, namely exploitation of cooperatives by leading members, lacking management competences in rural areas and no experience among farmers to manage cooperative institutions as main problems. Both authors in line with Lerman and Sedik (2014a) and USAID Georgia (2011a) emphasize also potential significance of policy and legislative support for cooperatives formation. But until recently, all conclude neither legislation nor taxation had been supportive for cooperatives successful development. Beside above mentioned problems, Hejkrlik and Kotková (2013) based on survey among small farmers in Western Georgia found additional following reasons for low level of cooperation in Georgia: no sources of information in communities on benefits of cooperation, limited positive models of successful cooperative enterprises, no experience from community resource management, no strong political commitment from national and regional government to facilitate cooperation, weak public dialog among villagers and local government and lack of motivation and enthusiasm because of non-stable markets and legislative environment. Kvariani and Ghvanidze (2015) investigate both positive as well as negative forces that influence institutionalized cooperation in Georgian wine industry. Authors admit importance of governmental and EU support for cooperatives formation but, on the other hand, demonstrate how external support easily creates strong dependency and limits sustainability. This is approved by Lerman and Sedik (2014b), Millns (2013) and EC/FAO (2012). Other difficulties preventing institutionalized

cooperation mentioned by Kvariani and Ghvanidze (2015) are weak access to capital, absence of long run plans and strategies and lack of the trust among farmers.

## 6.2 Conceptual framework and operationalization of the research

For the first objective, following criteria were established in order to capture variations in institutional design and membership base among new cooperatives:

For typology of new cooperatives - *Type of cooperatives according the main activity (marketing, production, service and input supply cooperatives), cooperatives' products, land owned and land managed by cooperatives, number of members, cooperatives' assets, financial grant provided and co-financing of grant by members, governance structures and loans taken by cooperatives.*

For analysis of membership base - *socio-economic characteristics of members, land possessed by members of cooperatives, cooperatives members' income and geographical distance of their farm to cooperatives' headquarters, cooperatives members' employees and taken credits.*

Based on review of above mentioned literature (mainly Buschmann, 2008; Lampi, 2012; Teres and Bondarchuk, 2015; EC/FAO, 2012; USAID Georgia, 2011a;b), potential factors of institutional cooperative formation were identified and grouped in categories distinguished as external and internal. For the second objective of our research, some factors were employed as variables for the econometric model, while others were analysed by descriptive statistics methods only:

**Internal factors** come from within target group itself. They are basically objective or subjective characteristics of the studied community of farmers. There are 3 categories recognized under this group in our research:

We start with *socio-economic characteristics* of respondents. Beside personal data of target group's age, gender and education, also information on farm size and income were collected with the aim to reveal whether personal characteristics are associated with the incentive to cooperate.

Other group of factors measured level of *social capital*. Based on available body of knowledge, Georgian society is characteristic by low level of bridging capital while

bonding capital is unusually strong. In order to capture this potential influence, we investigated trust and business inside and outside the community. Attention was paid also to other kinds of relationships inside the village, as information sharing, provision of help or informal institutions within the community.

*Individual factors and competences* was third and most varied category of measured internal factors. We assume that past negative experience with collectivization still play important role in willingness to cooperate, so the extent of its impact on farmers groups' formation was important for our approach. The role of leadership on forming the institutions was also examined. Experiences in the production of major crops was included as well.

*External factors* represent influence independent on the farmers and out of their control:

*State and international donor policies* have usually decisive impact on formation of producers' groups. Favourable taxation and legislation as well as availability of credit and national grant incentives are typically portrayed with strong effect for enabling environment for horizontal integration. At the same time, trust in national legal system is necessary. We also recognize that one of the crucial factors currently present in Georgia might be international donors' policies and availability of their support.

We perceived importance of the availability of credit from international donors to such an extent that we decided to control for this characteristics among respondents. As a tool we used matching of characteristics between research and control group of farmers based on the fact that all of them were involved in initial stages of informational campaign and trainings by NGOs responsible for grant distribution. Our assumption was that even farmers in control group were aware of the possibility of financial support and could have been potential target groups for donor intervention.

The second category of external factors concerns *market conditions*. We assume that the level of functioning of the agricultural and financial market significantly influences the tendency to form producers' organizations. Access to services, inputs, trainings, information, start-up or operational capital and number of farmers with the same product can be one of driving forces of cooperation.



production volumes. Today, production and export of herbs experiences success on local as well as international market. (Bondyrev et al., 2015; Geostat, 2015a).

The region, formerly famous for traditional plant production, has not recover from drastic fall of productivity and loss of market for agricultural products yet. Situation in agriculture is gradually improving since nineties inter alia due to the privatization of state property. Nevertheless, farmers in Imereti cultivate small partition of the land parcels with 1 ha piece of land at their disposal in average similarly as in other region of Georgia. Only about 8% of annual income comes from selling of agricultural products (Geostat, 2015b). Poorly developed infrastructure, deteriorating conditions of irrigation system, hardly accessible credits, capital disinvestment and limited existence of farmers' organizations caused low competitiveness of small farmers compared to importing companies and persistence of high poverty level mainly in countryside (Delegation of EU to Georgia, 2015). In 2014, annual income per capita in Imereti region reached 1,255 EUR which is slightly less than national average. This value indicates about 20% of rural population lives below national poverty line (Geostat, 2015b).

#### **6.4 Study sample**

Target group of the research consisted of new cooperatives established under the development project implemented by consortium of international and local development NGOs and financed by European Union under the ENPARD program for Georgia. In frame of the project, small farmers were provided with trainings on business plans writing and management of cooperatives. For selected farmers, the support included also financial grants in the value ranging from 7,800 to 30,440 EUR. One of the condition for receiving the grant was a sound business idea, co-financing of 25% of the grant and future investment of 10% of grant value in community development.

For Objective 1 - All members of newly established cooperatives were included in the study. To quantify it, the data was obtained from 11 members of the Board of directors and all 84 members of 11 cooperatives.

For Objective 2 - Two groups of respondents were questioned. The main research group included 45 members of newly established cooperatives who were interviewed regardless their position in the cooperative. Respondents of this group were randomly



chosen from members of cooperatives newly established within the ENPARD project. The research sample is statistically representative with the confidence level of 90% at 10% margin of error taking into account the total number of cooperatives' members in the whole Imereti region.

The control group consists of 26 members of informal farmers' groups or individual farmers who actively considered their involvement in open donor grant application but then withdrew during the course of the project. There are two sub-groups – farmers who did not intentionally consider cooperative as a viable legal business form for their planned entrepreneurship activities; and farmers who did not manage to form a group and pass minimum threshold required by donor granting conditions. In most cases, respondents from control group learned about the project from friends, relatives, business partners or directly from development NGOs. Some farmers found out the new opportunity to cooperate from mass media as internet or TV and few were informed by regional branches of Ministry of Agriculture.

The reference research sample was chosen based on matching technique which is the method reducing selection bias by balancing the distribution of characteristics between the treatment and control groups in observational data in the research (Wei Pan, 2015; Khandker et al., 2010). We matched members of cooperatives with identical non-members. Main criteria of matching was the requirement that even the non-members control group was fully aware of potential financial support from international donors and went through the part of trainings provided by NGOs. Decisive factor was, thus, their knowledge of grant possibilities. Both groups are comparatively represented based on multi-stage, stratified sampling technique to minimize the statistical error of variability of responses and to ensure representativeness of control sample.

The sample for econometric analysis of Objective 2 involved in total 71 respondents - 45 members of cooperatives and 26 farmers non-members. Men strongly dominated over women who were represented by only 8 female-farmers (see Table 2). About 34% of respondents fall in 40 - 50 age cohort. Only 3 persons are older than 60 years. Farmers younger than 30 years have only 6 representatives in the research sample. The interesting fact that majority of farmers have university degree is discussed in other section of results. The rest of characteristics is portrayed in Table 2.

**Table 2: Social and economic characteristics of the sample within Objective 2**

<b>Characteristics</b>	<b>Frequency (no. of respondents)</b>	<b>Percentages</b>
<b>Member of the cooperative</b>		
Yes	45	63
No	26	37
<b>Gender</b>		
Male	63	89
Female	8	11
<b>Age cohort</b>		
20 – 29	6	9
30 – 39	15	21
40 – 49	24	34
50 – 59	23	32
60 – 69	3	4
<b>Education</b>		
Secondary	12	17
Vocational	8	11
University	51	72
<b>Income (EUR)</b>		
Less than 3000	15	21
3,001 - 6,000	34	48
6,001 - 9,000	13	18
9,001 - 12,000	7	10
More than 12,001	2	3
<b>Land area (ha)</b>		
Less than 0.5	7	10
0.6 – 1	34	48
1.1 - 1.5	7	10
More than 1.6	23	32
<b>Product</b>		
Honey	15	21
Cheese, milk	14	20
Wine	8	11
Fishes	8	11
Herbs	7	10
Nuts	5	7
Other (meat, corn, tea, fruit)	14	20

## 6.5 Data collection

Two main tools were used to obtain data under the first objective; both are questionnaires - one for individual members of all 11 cooperatives established under the project giving 84 questionnaires, and one for members of the Board of directors. In order to question individual members of cooperatives, set of Open Data Kit application (ODK) for electronic data collection was designed. Questionnaires were filled by trained enumerator into tablet and then stored in electronic platform ona.io for data processing.

For Objective 2 - Data was collected using two different types of mixed structured questionnaires for individual members of cooperatives and for farmers who did not establish the cooperative. Completion of one questionnaire took around 50 minutes.

In order to improve instrument validity of all questionnaires, we approached the same information via dimensions consisting of several questions measuring the same construct. The Table showing questions forming scale for measured construct is attached as appendix 1.

For deeper understanding of used concepts and relationships between surveyed variables, additional qualitative data was obtained via semi-structured interviews with the representative of ADAC and project coordinators of involved development NGOs.

## **6.6 Data analysis**

For Objective 1 - Data downloaded from ODK was grouped according to cooperatives and then mainly descriptive statistics was used to calculate percentage and standard deviations in order to show diversity of characteristics of new cooperatives. Data obtained from representatives of cooperatives' Board of directors and from individual members was complemented by analysis of financial records and business plans of each cooperative. Qualitative interpretation of data was the principal tool for data analysis under the first objective.

For Objective 2 - Collected data was stored electronically, validated and cleaned to check for errors. Few missing values, arisen during data collection because of inability or unwillingness of some respondents to answer particular questions, had to be filled by calculating simple average of other values of the variable. This way of data management had no significant influence on the results of the model and study as such.

To determine factors effecting farmers' decision of becoming member in cooperative, we used binary probit model. It estimates relationship between independent variables and dependent variable – membership in the cooperatives - which assume only two values, 0 for non-members and 1 for members.

$$Y_i^* = \gamma X_i + u_i,$$

with,

$Y_i = 1$ , if  $Y_i^* > 0$  and

$Y_i = 0$ , if  $Y_i^* \leq 0$

where,

$Y_i^*$  is vector of dependent variable - the probability of happening,

$X_i$  is vector of independent variables,

$\gamma$  is vector of parameters to be estimated, and

$u_i$  is random error.

The variables whose statistical verification by mean of t-test confirmed significance of parameter were approved as having the influence on dependent variable.

We selected following independent variables:

*Age, gender, education, income, land size, level of social capital - bridging and bonding, experience in the business, perception of Soviet times legacy, presence of leader in a group, support from state and trust in government and market conditions.*

## **6.7 Limitations**

We are aware of several limitation of our research design. First is related to reliability of financial evidence and book keeping. In most cases, small farmers do not keep any written records about production or income. Thus, our several variables may happen not to be exact even though we tried to triangulate it from different sources and respondents, and by training of our enumerator. The same applies also for Board of directors of cooperatives, which do not have precise information (register of members) about members' shares in the cooperative.

Another limitation of the research may be the size of study sample used within the second objective of the research. Quantitative analysis built on 71 respondents can partially limit external validity and generalization of results of the research. On the other hand, results were partially verified by qualitative examination of respondents' opinion during personal interview.

General design of the research is non-experimental in nature, especially selection of respondents took place non-randomly since the information and contacts of control group respondents were provided by employees of NGO implementing the project.

## 7 Results

### 7.1 Objective 1

#### 7.1.1 Typology of new cooperatives

Table no. 3 portrays basic characteristics of newly established 11 cooperatives. We can observe that they typically produce grapes and wine, herbs (dill, parsley and coriander), and dairy products. Grape seedlings, corn, honey and artificial combs for beehives, chicken, lemonade and black tea are other main products of cooperatives.

Majority of cooperatives serves only short local value chains. Their products are mostly sold directly in villages at farm gate to local consumers and middlemen or in regional markets in close cities to wholesalers and processing companies. Only honey cooperative supplies its product beside regional capital also at national level to capital Tbilisi. Two herb cooperatives succeeded at international market with regular selling of production to Greece (coop. no 1) and Ukraine (coop no. 3) while wine from cooperative no. 10 has irregular buyer in Japan.

**Table 3: Characteristics of studied cooperatives - part 1**

No.	Type of cooperatives (see code 1)	Main product	Added value of production	No. of members
1	M, Pc, S	Herbs	Yes	26
2	M, Pd, Pc	Grapes, wine	Yes	5
3	M, Pc, S, IS	Herbs	Yes	5
4	M, Pc	Cheese	Yes	10
5	M, Pc	Wine	Yes	6
6	M, Pd, S	Seedlings, corn	No	4
7	M, Pc, S	Honey, combs	Yes	5
8	M, Pc, IS	Milk	Yes	5
9	M, Pd, S	Chicken	No	6
10	M, Pd, Pc	Wine	Yes	5
11	M, Pc, IS	Tea, lemonade	Yes	7

Code 1: M = marketing, Pd = production, Pc = processing, S = service, IS = input supply

All 11 studied cooperatives offer marketing and distribution services as the primary function of the organization. Four cooperatives focus also on production of crops or chicken independently from members' own farming activities. Nine cooperatives add value to their products by processing of raw materials into partially-processed or final goods (drying of herbs, bottling of wine, cheese-making or packaging of dried tea). Services in terms of renting of tractor and tractor equipment are provided

by two herbs and one corn cooperatives. Herb cooperative no. 1 rent tractor also to non-members under less advantageous financial conditions. Honey and chicken cooperatives serve to members as well as non-members who can process their honey in cooperative's facilities or use cooperative's hatching facilities, respectively. Dairy cooperative no. 8 offers necessary inputs such as medicines, feed and straw for farmers' cattle to its members. Herb (no. 3), tea and milk cooperatives supply members as well as non-members with fertilizers and seeds, fencing material and veterinary services, respectively.

The size of all cooperatives measured in terms of number of members is rather small with average of 7.6 members per cooperative. The only bigger one is herb cooperative (no. 1) with 26 members (the coop is already existing for 5 years) while all other new coops have 10 members or less. Without extreme value average membership of remaining 10 cooperatives is 5.8 members.

In terms of governance structures required by Georgian legislation, as a result of the establishment process all respondents participated at the election process that will be repeated in majority of cases once in four years. Few cooperatives decided to elect new leaders more frequently - once in three years and in one case even every year. The Board of directors has usually 3 elected members. None of the cooperatives have full time management, only wine cooperative no. 10 employs part-time accountant and two cooperatives hire three to five employees for seasonal works.

Size of land owned by all members within one cooperative is in average 10.1 ha (see Table 4). Chicken cooperative's members manage smallest plots of land of only 3.3 ha due to the fact that the land is used only for chicken houses. The biggest area of land, 35.3 ha, is owned by members of herb cooperative no. 1 but size of land is proportional to number of members (26). The average size of land owned directly by cooperatives is close to 1 ha. Most of the new cooperatives acquired land as an initial capital contribution by members. Only few of them purchased new governmental land in initial months of their existence.

We believe that land property rights and their legal arrangement between cooperatives and members is one of the crucial challenges for sustainability of new cooperatives. In some cases, the private land of individual members is used for

production or processing facilities of cooperative without any legal transfer of ownership rights on cooperative as a legal entity. There are cases when building with all cooperative's processing equipment is built on member's plot (or even in the member's private house) while property rights arrangements have not been solved yet. The problem can easily arise in case of membership termination and compensation or cooperative's break up. Only four cooperatives do not possess any land which is the case also for one production cooperative (chicken). This is extremely unusual configuration. Obviously, chicken hatching and the whole production process takes place on the members' land. In case of any conflict among members, the owner of the land can easily appropriate the production without paying off other members.

**Table 4: Characteristics of studied cooperatives - part 2**

No.	Coop owned land (ha)	Members' owned land (ha)	Coop assets independent from members (see code 1)	Financial grant (EUR)	Co-financing (EUR)
1	2.7	35.32	PcA, L, T, V	7,804	1,973
2	1.5	6.75	PdA, T	10,146	3,902
3	0.3	6.4	PcA, OA, B, L, T, V	30,369	21,657
4	1	16	PcA, B, V	18,192	6,087
5	0.7	6.8	PcA, B, L, T, V	30,120	10,692
6	2.06	4.5	PdA, L, T, V	13,137	7,580
7	0	5.3	PdA, PcA, V	30,281	9,299
8	0	10.2	PcA, B, L	30,127	18,731
9	0	3.3	PdA, B, T	10,146	4,292
10	2.06	4.9	PcA, B, L, T, V	29,897	34,417
11	0	12.05	PcA, B	9,073	1,350
<b>Average</b>	<b>0.94</b>	<b>10.14</b>	<b>N/A</b>	<b>19,936</b>	<b>10,907</b>

Code 1: PdA = production assets, PcA = processing assets, OA = office assets, B = building, L = land, T = tractor, V = vehicle

Financial grant given to the cooperatives for initial investments was about 20,000 EUR in average (see Table 4 for details). Grant was mostly used to acquire production or processing equipment and/or vehicles, trucks or tractors while few cooperatives decided to restore buildings invested into cooperatives by members as their initial capital. Co-financing investment exceeded in majority of cases the threshold of 25% required by the donor. On average members invested in their cooperatives 10,907 EUR from their private sources. Lowest co-financing was 1,350 EUR while the highest reached 34,417 EUR. In this case, members invested their private land as a co-funding. The issue of potential land ownership dispute is also highly relevant here as members still use the land for individual production of grapes. Beside land also buildings and equipment were mostly provided as co-financing in-kind investment. In-

cash investment corresponded to about half of remaining funding from farmers' private sources. In general, we can observe very high disproportions between initial private investments of members and resulting variations of shares between members. In all cooperatives, there are members with dominant number of shares and other members with almost no financial stakes in the cooperative.

At the beginning of 2016, all cooperatives (except herb cooperative no. 1 and tea and lemonade cooperative) were young - existing for only about one and half a year. Therefore, neither reliable calculations of profit and loss nor the report on profit paid back to members have been reasonably made yet.

So far, cooperatives reported some perceived constraints to their business - limited access to capital was the most frequent. Other commonly noted problems hindering smooth operation were demanding government regulation, high and complicated taxes and business regulations, limited pool of skilled managers and expensive or limited access to agricultural inputs. Despite obvious difficulties in obtaining the loan from commercial banks, three cooperatives have already successfully taken a loan in values of 2,497, 1,950 and 18,730 EUR, respectively. First one was used for purchase of materials and inputs while other two for business expansion.

### 7.1.2 Variations in characteristics of cooperatives' members

With respect to composition of cooperatives and characteristics of members, we can observe several interesting features. Regarding gender composition, there are 11 women as members of cooperatives representing 13% of all members. However, women are members of only three cooperatives (see Figure 5).

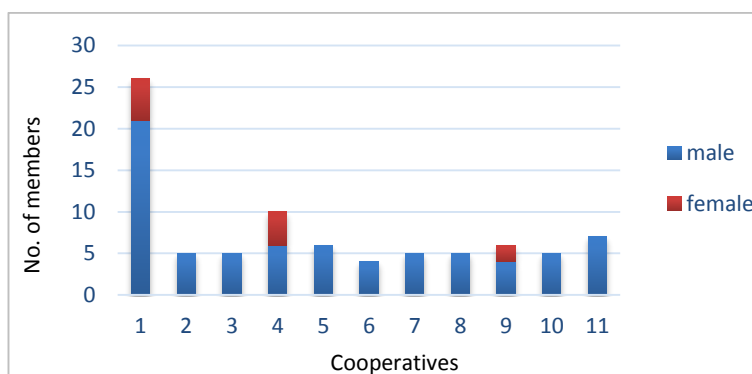
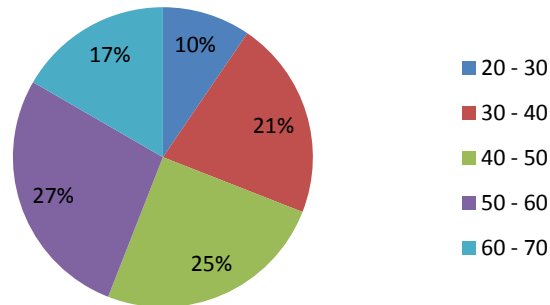


Figure 5: Membership in cooperatives according gender

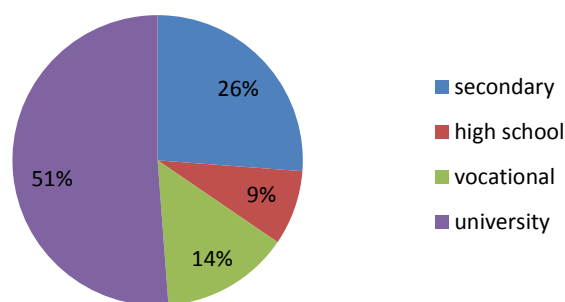


Young farmers are under-represented in cooperatives as well. As Figure 6 displays, only eight people younger than 30 years are members of studied cooperatives while youngest two members are 23 years old. Average age of respondents is 46 years with oldest farmer having 69 years.



**Figure 6: Age composition of cooperatives' members**

Out of 84 cooperatives' members, more than half of them (43) have university education (see Figure 7). Understandingly, oversupply on labour market due to the collapse of the economy and mismatch between educational system and demand on labour market, causes low employability of considerable part of economically active and educated population. Educated and experienced people are forced to employ themselves in working positions that are inadequate to their professional expertise.



**Figure 7: Level of education achieved by cooperatives' members**

One of the most telling characteristics of members is related to family relations. Eight cooperatives have two or more members coming from the same family and cooperative focusing on production of seedlings and corn consists of four members of

one family and only one non-family member. This points strongly into the direction of high social bonding capital as a main driving factor of cooperative creation. This, of course, indicates potential challenges in membership expansion beyond family circles and future growth of economies of scale.

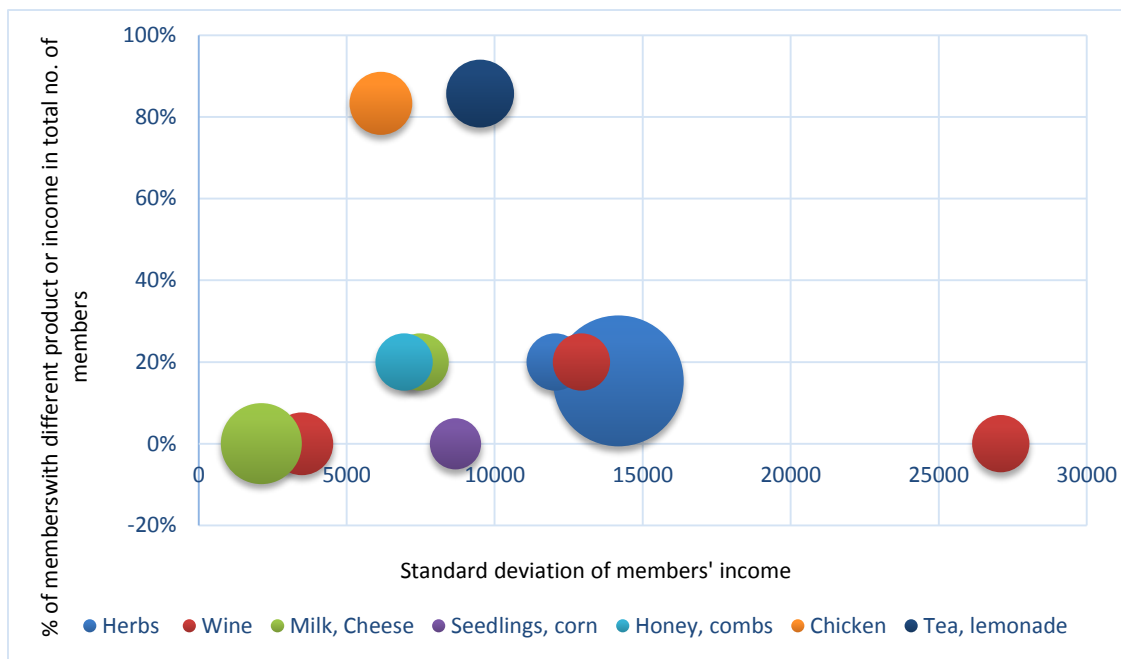
Basic characteristics of heterogeneity and equity among members are presented in Table 5. The average size of private members' land is 1.3 ha. Two members, one from cheese cooperative, one from cooperative producing herbs (no. 3), do not possess any land and obviously they do not do farming as a source of income. The smallest parcel has 0.12 ha while the biggest 10.25 ha and the standard deviation of individuals' land size does not exceed 1.9 ha within one cooperative. It means the members within cooperatives are rather similar in terms of land size.

**Table 5: Characteristics of heterogeneity and equity among cooperatives' members**

No.	Standard Deviation of members in		
	Land (ha)	Income (EUR)	Distance to coop headquarter (km)
1	1.82	5,533	7.32
2	0.44	10,572	0
3	1.08	4,700	14.74
4	0.78	826	0.63
5	0.3	1,360	17.77
6	0.22	3,386	1.03
7	0.23	2,707	7.92
8	0.85	2,920	1.1
9	0.22	2,401	2.44
10	0.49	5,044	0.12
11	1.57	1,363	2.58
<b>Average</b>	<b>8.34</b>	<b>3,710</b>	<b>5.06</b>

On the other hand, differences between members within the cooperatives in terms of income are tremendous (see Figure 8). Average annual income of members' household is 6,241 EUR with the highest income reaching over 32,388 EUR while the poorest families earn only about 390 EUR per year. The lowest differences of annual income between members of one cooperative is around 826 EUR but there is wine cooperative no. 2 with standard deviation of 10,572 EUR; the range of incomes within its members is 27,827 EUR. This shows that strong heterogeneity among members of one cooperative exists in terms of their income. Major part of respondents' income origins from agriculture. However members of seven smaller cooperatives receive bigger part of their income from non-agricultural activities. Half of this income

represents salaries earned from employment in private company or government institutions, quarter of household income comes in the form of pensions or disability insurance. Rest of non-agricultural income is obtained from self-employment and grants/vouchers from the government, donor organization and NGOs.



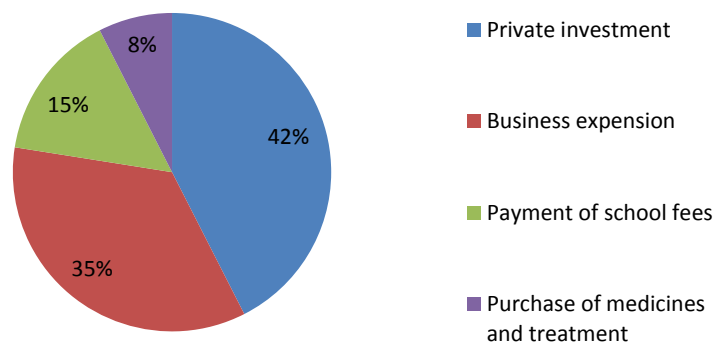
**Figure 8: Variation in characteristics of cooperatives' members**  
 (Size of circles signs size of cooperatives in terms of membership)

Only six cooperatives unite farmers who are all engaged in the production of agricultural product that corresponds with main business of their cooperative. 17 members of other five cooperatives do not work in the same business as cooperative does and 15 of them are not farmers at all (even though most of them own agricultural land). Extreme cases are chicken and tea cooperatives whose only one member produce cooperative's main commodity while all other members gain majority of their income from non-agricultural activities (see Figure 8). Engagement of members non-farmers into new Georgian agricultural cooperatives is highly typical. It confirms some difficulties in fulfilling requirements for minimum number of members (given by legislation and by donors) and suggests that even in marketing cooperatives some members are only investors or even “sleeping” formal members with no tangible business interests in economic success of their cooperatives.

In terms of geographical spread of members, most of them live in the same village where cooperative is registered and they are neighbours. The average distance of respondents' farms from the cooperative headquarter is 4.2 km. Extreme case is wine cooperative no. 2 whose all members live directly next to the centre of the cooperative (see Table 5 for further details). On the other hand, another cooperative producing wine (no. 5) has one remote member who lives 45 km far from the village so the average difference between members' farms location and cooperative's processing facility is 17.8 km. Nevertheless, one extreme value does not change the fact that cooperatives are built rather on bonding social capital and acquaintance among neighbours rather than bridging social capital and matching of professional business interests and needs among farmers from wider region. This can save a transaction costs in terms of transport and communication but potential hinders further expansion outside original villages.

Majority of cooperatives' members do not employ any workers neither for their individual farming nor for cooperative purposes. Members of four cooperatives provide seasonal job for total of 540 people. However, 400 workers are employed only by four farmers from herb cooperative (no. 3), where employees usually help during harvest time with harvesting and packaging of herbs.

In total, 48% of members got a credit from official commercial bank in average value 2,794 EUR. Figure 9 shows that 17 members of cooperatives took the loan for private investments into their property. In 14 cases farmers used the loan for expansion of the business, six respondents paid school tuition and three members financed medical treatment of family member.



**Figure 9: Purpose of loan taken by cooperatives' members**

## 7.2 Objective 2

### 7.2.1 Econometric analysis

In order to study farmers' decision to enter new cooperatives as members, econometric analysis was used. Results of correlation matrix calculation show low correlation of independent variables not exceeding value 0.5, which indicates absence of multicollinearity in our model. Overall accuracy level of the model is 83.1%. Out of 12 independent variables, seven have significant impact on membership in agricultural cooperatives (see Table 6 for parameter estimates and their significance). These variables are subject of further description.

**Table 6: Econometric results**

Independent variables	Working definition	Mean value – Research group	Mean value – Treatment group	Parameter estimates
Age (years)	24-65	42.91	47.27	-0.0440*
Gender	0;1	0.04	0.23	1.9126**
Education	1;2;3;4	3.44	3.73	-0.6335
Income (EUR)	710-13,442	5,043	6,228	-5.1379e <sup>-5</sup>
Land size (ha)	0.1-8	1.23	2.24	-0.4638**
Social capital - bridging	1-5	2.48	2.7	1.2171**
Social capital - bonding	1-5	2.1	2.28	0.8968
Experiences in the business (years)	0.5-40	12.76	13.21	-0.0046
Soviet times legacy	1-5	2.29	2.66	-0.9347**
Presence of leader	1-5	1.56	1.58	0.5701*
Support of state and trust	1-5	2.31	2.11	-0.9640**
Market conditions	1-5	3.77	3.27	-0.1875
Constant				0.7098

P values significance level: \*\*p<0.05, \*p<0.1

Among socio-economic characteristics, age and gender of farmers and size of their planting area have significant effect on participation in cooperatives. Results of the model suggest that younger farmers are capable of altering their production style to cooperative system and they are less afraid of changes. This attitude decreases with increasing age. Gender has the strongest influence on the model indicating men are more willing to cooperate in institutionalized way. Farmers producing on smaller plots of land showed higher tendency to associate in agricultural cooperatives.

Bridging social capital has significant positive influence on the dependent variable. It suggests that farmers with higher interactions with people outside their families and neighbourhood are more likely to become members of cooperative. This is valid even though all new cooperatives are still predominantly family businesses where

only seven farmers stated in accompanying interview that they accepted also person out of the community as a cooperative member. When being asked about conditions for new members to join, farmers frequently answered: "*We should know and trust new member or he has to be recommended by person we trust.*" Trustworthiness and reliability was highlighted by 16 respondents to be the most important requirement for acceptance of new member.

Based on our data, Soviet times forced participation in kolkhozes negatively influences participation in cooperatives indeed. In other words, cooperatives are formed mainly by farmers who have not been members of Soviet collective farms, who do not keep historical pessimistic attitudes on cooperatives and who are not afraid of potential state control over the cooperatives.

We took additional information regarding mental block due to the Soviet legacy of cooperatives from qualitative responses of both members and non-members. Predominantly, people have negative attitude toward kolkhozes simply because "*the work was hard and the remuneration low.*" Respondents criticized forced participation and undemocratic management of these quazi-cooperatives that were centrally controlled by the government which usurped majority of production and profit. Current Georgian farmers see Soviet collective farms as unprofitable old-times type of business improper neither for economic development and hardworking farmers nor for the society. Few positive opinions appeared in association with collective work of people who were united around common goal of kolkhoz.

Presence of leader in the community proved to be important. Typically, leader is person respected in the village or community who is able to persuade others to change their minds and accept innovations; including cooperative enterprise. Farmers with closer relationship to leader who supports cooperative production are more predisposed to become members of cooperative.

Government and its policy as the only external factor has significant negative impact on membership in cooperatives. Interestingly, it implies that those who join the cooperative do not trust the government and they do not consider state policy, taxation and legislation as being supportive neither for individual farmers nor for cooperatives.

### **7.2.2 Decisive factor - International donors**

The significance of international assistance for decision to establish the cooperative was the decisive factor for matching of research and control group and thus it could not be analysed via probit model. Also, respondents from research and reference group were asked different set of questions in this respect. Based on qualitative analysis of responses, the presence of international donors in the form of expertise, assistance and financial support to farmers during process of cooperatives' formation is extremely important in Georgian environment. Almost half of surveyed farmers had thought about formation of the cooperative even before the ENPARD project started but the lack of money, knowledge and experiences were the main constraints to implementation of their plans. Therefore, majority of respondents agreed they would not form the cooperative without external support. For 80% of cooperatives' members grant was the main driving force for establishment of the cooperative. About half of respondents appreciated access to trainings and innovations provided by the NGOs and 12 farmers were motivated by professional help of NGOs with legal and managerial aspects of cooperatives' establishment. Important factor in decision to participate in the project was also gaining higher status in society which membership in cooperative brings.

### **7.2.3 Common obstacles to formation of cooperatives in Georgia**

In the questionnaire, respondents were asked to share their opinion on what are the main obstacles to formation of cooperatives in Georgia in general. Members of reference and research group equally see the main problems in the lack of financial means for establishment of cooperative and in negative attitude of farmers toward cooperatives caused by bad experiences with Soviet times kolkhozes. Members of cooperatives also consider the lack of information about positives of new cooperatives as important problem. As one respondent remarked, "*Society does not know that cooperatives are good and people confuse cooperatives with kolkhozes.*" Additionally, they frequently agreed that farmers do not trust each other, they are not motivated to participate in producers' organizations and there are only few people working in the same business which is not sufficient for cooperative formation. Some farmers-members believe that the government inadequately support cooperatives and, also, they do not consider the government and its policy to be trustworthy.

Among control group of non-members, 17 out of 26 farmers non-members answered they had not any specific reason for not forming the cooperative. Six people during initial meetings with NGOs providing financial support discovered that they are not able to meet project conditions because they cannot gather required number of farmers to cooperate with. It is reportedly caused by the low level of trust and misunderstanding between people. Some farmers were discouraged by bureaucracy associated with management of cooperative or insufficient value of the grant. Farmers also lacked necessary financial means to co-finance donor's grant or they missed experiences in finances and accounting to successfully manage the cooperative. Farmers non-members furthermore asserted that there is a low awareness about cooperatives' advantages and about programs for cooperatives' support and therefore farmers are generally not motivated to cooperate and start joint business.



## 8 Discussion

In order to study various factors of formation of institutions, in the first part of the results we described the typology of cooperatives resulted from external support and explained characteristics and diversity among their members. Based on that, the second part of our findings, together with analysis of main driving forces of formal cooperation, adds main obstacles to farmers' participation in agricultural cooperatives in the form of descriptive statistics.

We found that all new cooperatives provide marketing services to their members and most of them also process their products. Production by cooperatives (usually in addition to members' production) takes place in less than half of cooperatives.

Within the framework of Property rights theory (Nilsson, 2001), the typical problem of new cooperatives is that farmers do not distinguish clearly between members' property and property of cooperative. The production and assets are not divided neither from the legal point of view nor from the point of view of costs and benefits attribution. Obviously, many discrepancies and potential conflicts over the ownership can arise from such arrangements.

Several cooperatives also provide services (renting of tractor or processing products in cooperative's facilities) to non-members. Hence, the benefits of being members become less obvious and potential of freeriding effect might occur soon (Karantininis and Nilsson, 2007; Kispál-Vitai et al., 2011; Ortmann and King, 2007).

The freeriding effect and problem associated with agency might arise also due to the highly unequal distribution of shares between members. As a result of initial co-funding requirement of donors, some members who invested their real estate property, inserted disproportionately bigger part of grant co-finance than others. Strongly unequal distribution of shares in favour of few individuals can be sign of prevailing dominance of leading members which may contradict democratic principles of cooperative and even threat the existence of the cooperative as a wide member-based business. This issue was pointed out in detail by Fulton and Giannakas (2007) or Lampi (2012). It is also in line with Lampi (2012) together with Teres and Bondarchuk (2015) who confirm that exploitation of cooperative by leading member is important problem of Georgian

cooperatives. Thus, special attention should be dedicated to the equality of members during donor assisted establishment of cooperatives and to the developing strong internal rules of group dynamics in order to create clear boundaries of interactions which might wake up hidden potential and creativity among all members. It is also important to build strong group identity which will serve as an attractor for the whole organization. Then, sharing and communicating group objectives internally and externally must follow. Otherwise, the results of the grant can be usurped by one leading member after the end of the project intervention. In the framework of Property rights theory and Agency theory, this conclusions are confirmed e.g. by Ortmann and King (2007), Royer (1999), Sykuta and Chaddad (1999).

Freeriding effect of farmers-members with almost no investment into the cooperative capital might become problem. On the other hand, although some differences exist in overall household income, members within one cooperative are relatively similar in terms of land size which can decrease potential conflict of interest. But freeriding effect can be deepened by the fact that various middlemen and buyers prefer to deal with unorganized farmers and thus exploit the status quo. They might be threatened by the new cooperatives, which might overtake their distribution and market access functions.

Heterogeneity among members is also exacerbated by their varying business orientation; about 20% of our members do not focus on production of main cooperative's commodity and almost 18% are not farmers at all. Furthermore, we found out that, in some cooperatives, majority of members gain most of their income from non-agricultural activities. This configuration also indicate potential dominance of leading members and presence of passive members who are registered only formally without having real interest in the cooperative issues. In the same direction, Millns (2013) highlights that majority of recently established cooperatives in Georgia have about 50% of passive members who register just in order to fulfil the obligatory threshold on number of members set by donors.

All studied cooperatives are small in terms of membership since the average number of members is only 7.6. This is extremely low number for the business orientated enterprises based on advantages of economy of scale. Qualitatively new

business opportunities and income can only be brought through assembling larger volumes of production and finding new buyers for increased and improved quantities. This “course of smallness” is also related to the fact that currently registered cooperatives do not exceed the family and relatives’ circles; majority of cooperatives associate at least two members of one family and members of one cooperatives typically live very close to each other. This arrangement confirms that the cooperatives are based on strong bonding capital and members of the family are usually considered to be the most trustworthy. Also, it is likely that members have been put together with motivation to fulfill the threshold numbers set by the law and donors rather than to exploit economies of scale due to combination of several existing individual farms. Members of the family typically help each other or do business together regardless membership in cooperatives. We can anticipate that these “family cooperatives” will be less likely to enlarge membership base and accept new members from out of the family or neighborhood.

Our finding regarding the internal factors influencing formation of cooperatives show age and gender of farmers, size of land, bridging social capital, legacy of Soviet times and presence of leader in the community as significant factor in decision on establishment of agricultural cooperative.

Younger farmers are more likely to participate in cooperatives since they are more receptive to innovations. This might be supported by the fact that the new generation of farmers has no experiences with Soviet kolkhozes and that is why they are not burdened with negative attitudes toward cooperatives.

We found gender to be factor with the strongest influence on farmers’ participation in cooperatives. Identically with results of Nkurunziza (2009) and Nugussie (2010) male-headed households appear to be more willing to join cooperatives compared to farms led by women. However, the association might be blurred by the fact that patriarchal society dominates in Georgia which implies men as typical heads of the family. Therefore, men rather than women are typically registered as cooperative members. Also, male farmers might be less afraid of changes than female ones who tend to avoid risks and rather choose known and safe way of doing business. Another problem of participation of female farmers in cooperatives could be the lack of time to

attend obligatory trainings and informational meetings. Compared to men, women typically work on the farm but after coming home they have second job in the form of housework and childcare.

Nkurunziza (2009) and Zheng et al. (2011) conclude in their studies that size of arable land influences participation of farmers in cooperatives. Our research also confirmed size of agricultural land as being important factor. Farmers with smaller plots of land do look for strategies to increase economies of scale and cooperate more often than those possessing bigger land parcels. Nevertheless, there is a clear minimal size of land (0.6 ha) which shows that cooperatives are attracting for semi-commercial farmers, while the smallest subsistence farmers are usually left away (Bernard and Spielman, 2009; Thorp et al., 2005).

In terms of the social capital, it is important to note that although number of studies (Buschmann, 2008; Kvariani and Ghvanidze, 2015; and USAID Georgia 2011a;b) highlight significance of bonding capital on participation in cooperatives, results of our model did not confirm such conclusion in statistically significant way. One of explanations for non-significance of bonding capital can be limited construct validity and ability of questionnaire to precisely reveal real relationships inside the community and families in terms of bonding capital. Nevertheless, high level of bonding capital among Georgian farmers and its importance for formation of cooperatives was proved by results reached within the first objective of the study which declare hesitations of farmers to formally cooperate outside relatives and acquaintances.

On the other hand, bridging capital showed to be significant factor in cooperatives' formation and membership. Contrary to conclusions of Buschmann (2008), we found positive influence of bridging capital on formation of cooperatives. This indicates that, even for family run business, the willingness of making relations with wider community is important for new innovative approaches of doing business.

Negative experiences of farmers with Soviet times kolkhozes was emphasized by many authors (Buschmann, 2008; Lampi, 2012; Lerman and Sedik, 2014a; Teres and Bondarchuk, 2015; USAID Georgia, 2011a;b) as strong obstacle hindering

contemporary development of cooperatives in Georgia. The same results were reached also in our research. Farmers have predominantly negative attitude toward cooperatives and mainly those who personally experienced collectivization of agriculture are still afraid of state potential control over the cooperatives' business. Farmers who refused to join cooperatives usually do not recognize big difference between old type collective farms and modern cooperatives. This creates significant disincentive to their participation.

Together with Garnevska et al. (2011), we identified important role of dedicated and motivated leader for successful formation and management of cooperatives. If a person - recognized as a leader in the local community - decides to join cooperative, others are more likely to follow and become members too. Once these opinion-leaders are convinced about benefits of cooperatives, the idea is more easily transferable to other farmers in the village. Focus of international projects and national extension services should therefore target community leaders and convince them about cooperatives' advantages to deepen the effects of promotion campaigns.

Within our pre-defined external factors only attitude towards the state shows to have significant influence, while conditions on the market did not prove to be statistically significant. We found that farmers who generally do not trust to national government, do not identify with national policy and feel low governmental support in terms of taxation, legislation, extension and other services are more committed to cooperation. Problem of distrust of general population toward the state authority and its policy is described for example by Buschmann (2008), Hejkrlik and Kotková (2013) and Lampi (2012). One of the explanation of such conflicting result can be that people are turning to rural institutions and cooperatives as a strategy to protect themselves from unreliable government and its support. But as Lerman and Sedik (2014a) and USAID Georgia (2011a) emphasize in their studies, policy and legislative support are crucial for cooperatives' formation, thus Georgian government should systematically endeavour to change farmers' negative opinion in the long run.

We can only confirm statement of FAO (2012c), Kvariani and Ghvanidze (2015), Lerman and Sedik (2014a;b), Millns (2013) and EC/FAO (2012) about importance of donor support for cooperatives' formation since majority of surveyed farmers admitted

that financial grant and trainings provided within the international project represented main motivation for establishment of their cooperatives. As explained also by Misheladze (2015), external support was the main driving force of the cooperation for majority of Georgian cooperatives established during last two years. We learned that assistance during the start-up phase of cooperative is very appreciated mainly in the current perceived unstable and unclear legal environment. But the caution is needed, especially after the end of donor interventions, since sustainability of such cooperatives is highly questionable, which Černá et al. (2012), Buschmann (2008), Lampi (2012) and others approve in their researches.

Our analysis focused only on the limited number of newly created cooperatives by one particular NGO from initial round of grant provision. Thus, the approach of the project managers, rules for applicants and level of assistance during the project mattered substantially for resulted typology of cooperatives. Therefore, it could be interesting to enlarge study sample and continue the research with cooperatives established during later rounds of grants and conduct comprehensive analysis of all cooperatives formed within the support of all NGOs involved in ENPARD program. Repetition of the research after few years of existence of new cooperatives and analysis of sustainability and performance of cooperatives assisted by donor community would have also high value for the research of the impact of external intervention on rural economic institutions.

## 9 Conclusions

Small plots of fragmented land, so typical for Georgian farmers, do not enable economies of scale and commercialization of production. In theory as well as in some practical evidence, cooperatives appear to be effective tool for improvement of situation of local farmers. International programs together with current Georgian governmental policy promote cooperatives as a mean of rural development and poverty reduction. As a result of their joint endeavour, hundreds of cooperatives mushroom basically out of nothing in Georgian countryside. Therefore, our aim was to provide closer look on this phenomenon and analyse these newly established cooperatives in western Georgia from the point of view of their typology and key factors that influence decision of farmers to become members.

Surveyed cooperatives were young, functioning only about two years. It is a success of international donors and NGOs that, only as a result of EU ENPARD initiative, almost 170 new producers groups are being created. Some of them already demonstrates viability and sustainability and, therefore, effectiveness of such focused and systematic support. Nevertheless, based on existing theoretical literature and data collected in the field, our research already highlighted some potential challenges which can threaten their future development. Low number of members, unequal shares and income or different business orientation and interests of members within one cooperative can cause a leading member to suppress democratic mechanisms of decision-making and overtake the management of cooperative on the detriment of other members and of good reputation of Georgian cooperative movement in general. “Expectation of carrot” when farmers are motivated to cooperate mainly by anticipated grant contribution is probably deepening this threat. High level of bonding capital among Georgian rural population and vaguely defined property rights and rules of group management also represent challenge for expansion of cooperatives to the new semi-commercial farmers willing to follow cooperative principles and ideology as a new members. It is too early to evaluate sustainability of these new cooperatives but it is obvious that overcoming challenges resulted from initial arrangements will not be a cakewalk.

Our findings also show that age, gender and size of planting area, level of bridging social capital, legacy of Soviet times, leadership of the community and attitude toward government are significant factors influencing formation of cooperatives in Western Georgia. We can summarize that younger male farmers with smaller plots of land and close relationship not only with friends and acquaintances but also to people outside the family and community circles are more predisposed to become cooperatives' members. Farmers without past experiences with Soviet kolkhozes, those who have strong decisive leader inside their community, and farmers who are opposed to national government and its policies and rather rely on local rural institutions, are more likely to formally cooperate in producers' organizations as well.

To conclude, the revival of agricultural cooperatives in Georgia begun just a few years ago and thus, many aspects of their establishment and performance need to be further analysed in the future in order to capture more detailed insight of current agricultural cooperatives and their final impact on a new Georgian countryside.



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## **Appendices**

### **List of Appendices**

Appendix 1: Variables and their questions for econometric model

Appendix 2: Photo documentation of data collection

## Appendix 1: Variables and their questions for econometric model

Type of variable	Question	Type of answer
<b>Dependent</b>	Membership in the cooperative	Dichotomous
<b>Independent</b>		
<b>Age</b>	How old are you?	Number
<b>Gender</b>	What is your gender?	Dichotomous
<b>Education</b>	What is the highest level of your achieved education?	Multiple-choice
<b>Income</b>	What is your HH income from agricultural activities?	Number
	What is your HH income from non-agricultural activities?	
<b>Land size</b>	What is size of your agricultural land?	Number
	The farmers outside my community can be trusted	Scale 1 to 5
<b>Social capital - bridging</b>	It wouldn't be problem for me to do a business with the farmers outside my community	Scale 1 to 5
	I would employ on my farm person who I wouldn't know before.	Scale 1 to 5
	When I make an agreement with other farmers outside my community they always fulfil the terms.	Scale 1 to 5
	Over the last 5 years the level of trust and solidarity outside my community has become better.	Scale 1 to 5
	I would be willing to share my property with people outside my community.	Scale 1 to 5
	How many farmers outside your community do you communicate with?	Number
	How often per month do you communicate with farmers outside your community?	Number
	How many friends that you meet more than twice a year do you have outside your community?	Number
	Would you be willing to actively cooperate with people outside your community?	Dichotomous
	Are you or have you been member of some farmer's group?	Dichotomous
	Do you participate at some local events (festivals, wine harvest)?	Dichotomous
	Where do you get information about prices related to your business?	Multiple-choice
	Where do you get information about new methods related to your business?	Multiple-choice
	What is the source of information about national politics?	Multiple-choice
	<b>Social capital - bonding</b>	In my community people generally trust each other in matters of lending and borrowing money.
When I make an agreement with other farmers in my community they always fulfil the terms.		Scale 1 to 5
Over the last 5 years the level of trust and solidarity in my community has become better.		Scale 1 to 5
The feeling of togetherness or closeness in my community is becoming distant		Scale 1 to 5
I consider neighbours problem as being my own.		Scale 1 to 5
I would provide any form of help (financial, material) to people in my community in case of difficult life situation.		Scale 1 to 5
I help people in my community during the busy times (harvest).		Scale 1 to 5
I would share the equipment with people in my community		Scale 1 to 5
How many people from your community do you employ on your farm?		Number
Where do you get information about prices related to your business?		Multiple-choice
Where do you get information about new methods related to your business?	Multiple-choice	
What is the source of information about national politics?	Multiple-choice	



<b>Experiences in the business</b>	How long do you work in the business?	Number
	How long do you produce your main commodity?	Number
<b>Soviet times legacy</b>	Have you been member of the cooperative during the Soviet times?	Dichotomous
	I am/would be afraid of the state potential control or influence over my/the coop.	Scale 1 to 5
	The local authorities should refrain from involving themselves in affairs of the coop.	Scale 1 to 5
	Georgian farmers have negative attitude to cooperatives based on experiences from Soviet times.	Scale 1 to 5
<b>Leader</b>	Is there a person in your community who could be labelled as a leader?	Dichotomous
	Would you label yourself as the leader of your community?	Dichotomous
	Having trustful leader is necessary for creation and functioning of cooperative.	Scale 1 to 5
<b>State trust and support</b>	I can rely on the quality of national legislation, that my citizen rights will be always defended.	Scale 1 to 5
	I consider the national politics as having right direction.	Scale 1 to 5
	Current government makes improvement compared to former leaders.	Scale 1 to 5
	I believe the government is improving conditions for doing business.	Scale 1 to 5
	The state provides me with promoting services	Scale 1 to 5
	The state provides me with consultancy services	Scale 1 to 5
	The state provides me with extension services	Scale 1 to 5
	Have you ever heard about any state program for cooperative support?	Dichotomous
	The state actively supports formation and functioning of cooperatives	Scale 1 to 5
	Do you know the legislation regarding cooperatives?	Dichotomous
	In terms of taxes, do you consider it advantageous to be member of the cooperative?	Dichotomous
<b>Market</b>	The lack of start-up capital is/was the main constraint for business improvement.	Scale 1 to 5
	How many people do live in your community?	Number
	How many farmers are there in your community who do business in the same sector (the same crop or livestock)?	Number
	How far is the closest market?	Number
	How important problem to your business is access to inputs?	Scale 1 to 5
	How important problem to your business is access to services?	Scale 1 to 5
	How important problem to your business is access to trainings/innovations?	Scale 1 to 5
	How important problem to your business is marketing of production?	Scale 1 to 5
	How important problem to your business is access to credit?	Scale 1 to 5

**Appendix 2: Photo documentation of data collection**



**Photo 1: Interview with farmer non-member producing honey in Khoni, Imereti region (photo by authors)**



**Photo 2: Interview with members of cooperative in Sazano (Terjola) Imereti region (photo by authors)**