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Analysis of Factors Contributing to Economic and Non-Economic Impact of New Agricultural Cooperatives in Georgia

MASTER'S THESIS

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Declaration

I hereby declare that I have done this thesis entitled “Economic and Social Impact of New Agricultural Cooperatives” independently, all texts in this thesis are original, and all the sources have been quoted and acknowledged by means of complete references and according to Citation rules of the FTA.

In Prague date

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Levan Chkhvirkia

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Finally, I want to dedicate the thesis to the memory of my grandfather Murman.

Abstract

Economists, researchers and agricultural policy makers believe that cooperatives are tools to improve quality of living in rural regions in developing and developed countries by providing employment, improving food security and alleviating poverty. After collapse of Soviet Union, most of agricultural lands in Georgia had been fragmented into small pieces and farmers individually were not efficient agricultural producers. Lack of resources, knowledge, increased transaction and production costs, low bargaining power on the market are the reasons why standalone farmers can not improve their quality of life. Cooperative movement is believed to change this negative situation in the country through intensive national and international support of farmers' groups. However, while some new Georgian cooperatives seems to be functional models many others are failing to deliver expected benefits.

Number of scientists throughout the world tried to study factors that affect success of cooperatives and outcomes are rather contrasting. Therefore, main goal of the thesis was to analyse factors influencing economic and non-economic benefits of newly created agricultural cooperatives in Georgia. Research examined individual members' perception about economic and non-economic benefits of cooperation. Cluster sampling and snowball sampling methods were employed to reach 93 members from 37 apiculture, viticulture and hazelnut cooperatives. Objectives of the study were to create institutional typology of cooperatives, compare three target sectors in terms of economic and non-economic benefits and analyse factors affecting cooperative success through econometric model. Research revealed that age of the members, cooperative size, share of women, share of nuclear families and active participation are the factors which influence the success of the cooperatives across all three sectors.

Key words: Institutional development, collective action, rural development, poverty alleviation, success

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List of the abbreviations used in the thesis

ACDA	Agricultural Cooperatives Development Agency
APMA	Agricultural Projects Management Agency
EU	European Union
FAO	Food and Agricultural Organization
GDP	Gross domestic product
ICA	International Cooperative Alliance
IFAD	International Fund for Agricultural Development
IOF	Investment owned firm
LLC	Limited liability company
MOA	Ministry of Agriculture of Georgia
R&D	Research & development
ROI	Return on investment
SDGs	Sustainable Development Goals
UN	United Nations
USAID	United States Agency for International Development

1. Introduction

"Talent wins games, but teamwork and intelligence win championships"

– Michael Jordan (American basketball player, 6 times NBA champion)

History of cooperatives starts in mid-19th century in Rochdale, England when first consumer cooperative was established by people called "Rochdale pioneers". In 1864 Friedrich Raiffeisen formed first rural credit cooperative which provided cheap credits for rural people in Flammersfeld, Germany. "Rochdale pioneers" created principles of cooperative movement which is still the basis of activities of International Cooperative Alliance (Teres et al. 2016). Rochdale seven principles of cooperative by ICA (1937):

1. Open Membership
2. Democratic Control (One Man, One Vote)
3. Distribution of the surplus to the members in proportion to their transactions
4. Limited Interest on Capital
5. Political and Religious Neutrality
6. Cash Trading
7. Promotion of Education

International Cooperatives Alliance (2018) defines cooperatives as: "Cooperatives are people-centred enterprises owned, controlled and run by and for their members to realise their common economic, social, and cultural needs and aspirations". At least 12% (1 billion members) of the world's population are co-operators of 3 million cooperatives in total. Cooperatives are the contributors to the sustainable economic growth and providers of secure, quality employment involving about 280 million people across the globe which is the 10% of total population (ICA 2018). According to ICA (2018), cooperatives have an important role in achieving UN's (United Nations) SDGs (Sustainable Development Goals) because of cooperatives' input into

poverty reduction and social inclusion. By the year 2016, world's top 300 cooperatives by the turnover had a turnover of 2.1 trillion USD. Agricultural cooperatives represent 33% of these cooperatives. Top 20 of agricultural cooperatives generate the turnover of 274.25 billion USD (ICA 2018).

There is a renewed interest in developing and developed countries towards the cooperative movement, because a cooperative organization is believed to be more flexible than corporations and has more resistance to the economic crisis (Birchall & Ketilson 2009; Delbono & Reggiani 2013). Many development studies consider agricultural cooperatives as the key for rural communities to reduce the poverty in rural areas and are considered as the policy instruments for developing countries to attain agricultural transformation (Wanyama et al. 2008; Altman 2015; Abate 2018). New agricultural markets become more and more demanding regarding the quality and food safety standards and requirements (Reardon et al. 2005). Smallholder farmers without sufficient resources, knowledge and market information, cannot meet the standards thus they do not have the access to high value markets (Markelova et al. 2009).

However, besides some authors explain positive sides of cooperation, others provide main disadvantages like freeriding, low trust, higher costs of control, problems of property rights and problems associated with principal agent inefficiencies (Nilsson 2001). Even within one region or country there are sectors where cooperatives grow and serve as viable business for small and middle-size farmers, whereas in other sectors they barely survive or do not emerge at all.

Region of Eastern Europe including the post-Soviet countries has also very specific and difficult history of cooperative movement with many farmers still remembering forced collectivization and state-controlled collective farms. After collapse of Soviet Union, most of agricultural lands in Georgia had been fragmented into small pieces and farmers individually were not efficient agricultural producers. Lack of resources, knowledge, increased transaction and production costs, low bargaining power on the market are the reasons why standalone farmers can not improve their quality of life. However, even here there is nowadays call of national governments and international donors into revival of cooperative movements as a potential solution of

many challenges faced by small and atomized farmers. Nevertheless, while some new Georgian cooperatives seem to be functional models, many others are failing to deliver expected benefits.

Therefore, the thesis is focused on the assessment of individual, institutional and external factors influencing the success of newly created agricultural cooperatives in the rural Georgia using primary data collected from wine, honey and hazelnuts cooperatives in the whole country.

The thesis is divided into 10 chapters. First chapter introduces the general overview of cooperative movement and importance of cooperatives in rural development and poverty alleviation in developing countries. Second chapter comprises the analysis of history of Georgian agriculture and current situation in agro-sector. Mentioned chapter also includes the sector analysis of three target industries of hazelnut, apiculture and viticulture. Next chapter covers the analysis of previous researches about cooperatives and cooperative movement in different countries and scenarios: benefits of cooperation and factors influencing the success of cooperatives.

Chapter 4 represents the theoretical overview of major theories directly connected to assessment of benefits of cooperatives. Following chapters reveal the aims of the thesis, explain the methods of data collection and processing, and provide results with final discussion and conclusions.

Study may be beneficial for Georgian government, particularly agricultural policymakers and agencies involved in agricultural and rural development processes, donor organizations to evaluate the outcome of financial and technical support directed towards the newly created agro-cooperatives. This research might be also interesting for researchers and students interested in this topic, as there is no sufficient number of studies dedicated to performance of cooperatives in former Soviet countries of Eastern Europe.

2. Agriculture in Georgia

Georgia is a country located in the Caucasus region, on the crossroads of Eastern Europe and Western Asia. 43.4% (more than 3 million hectares) of the Country is used as agricultural land, other 43% is occupied by the forest. With diversified ecological and climate zones (12 climatic zones and 49 soil types), there are good conditions for the cultivation of temperate and subtropical agricultural products. Those crops include cereals, early and late vegetables, melons and gourds, potato, technical crops, grapes, subtropical crops, fruit varieties etc. (MOA 2015).

Georgia has a very long history in agriculture. The archaeological researches in Georgia discovered pottery with wine residues dated 6,000-5,800 BC, thus Georgia is recognized as a motherland of wine (McGovern et al. 2017). While being part of USSR, Georgia had significant importance because of its agricultural crop output, supplying most of soviet countries with tea, wine and other agricultural crops (Curtis 1995).

Share of agriculture in GDP of Georgia was declining from year to year (Figure 1). This decrease is caused by several political and economic factors. After the collapse of Soviet Union, many agricultural enterprises ("kolkhozes") stopped functioning. Machinery was sold with scrap value, qualified workers quit their jobs and agriculture faced dark times. Because of inappropriate agricultural policy, agricultural sciences were destroyed. Because of land reforms, many agricultural lands were broken into pieces. The biggest number of land sizes are from 0.1 hectares to 1 hectare, this is because of land owned by households are split into 2-3 lands (MOA 2015).

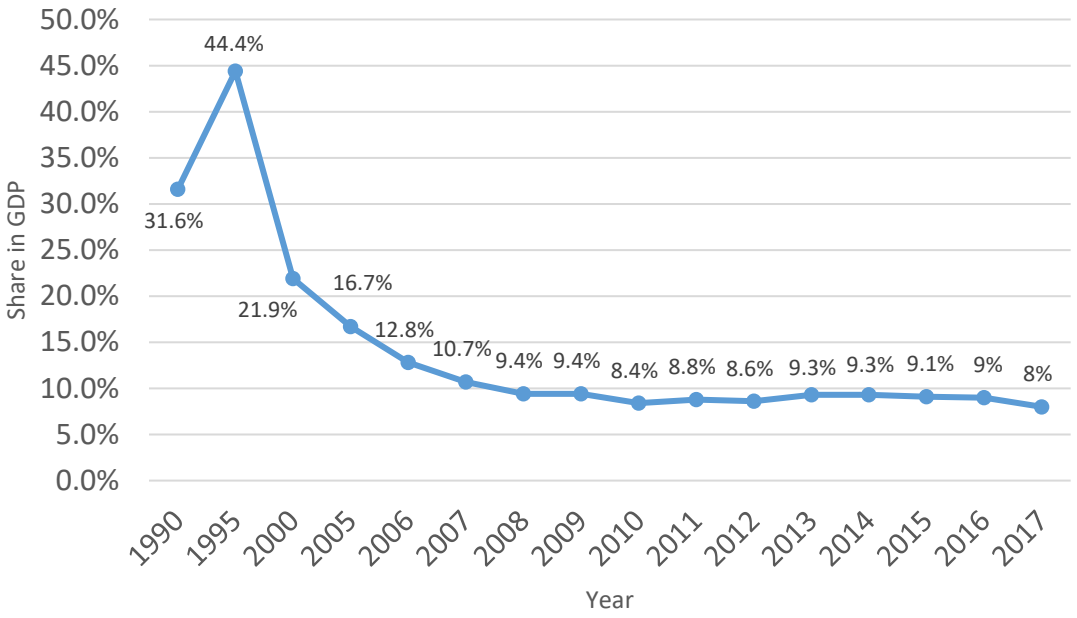


Figure 1. Share of agriculture in GDP (Source: GeoStat)

Full usage of Georgian agricultural potential is highly prioritized and important for the Georgian economy. Country is not rich with natural resources thus the economy is mostly depended on tourism and agriculture.

Until 2012 there were no significant changes to improve agricultural situation within the country and this sector was not well financed from the state budget (0.44% of total government spending), but after 2012, the new government drastically changed the attitude toward the agricultural development. They declared the agro-sector as a top priority sector in the country and the budget for the development was significantly increased. The government is trying to create a good business environment, attract investors to agriculture and achieve such policies that will assure development and growth. Besides that, government's goal is to achieve food safety and food security in the country (MOA 2015).

To accomplish mentioned goals and develop agriculture in the country, Ministry of Agriculture works with international donors and stakeholders like EU, The World Bank, FAO, USAID, IFAD, etc. (MOA 2015).

2.1. Cooperatives in Georgia

There are 6 main principles of cooperatives defined by the Georgian Agricultural Cooperative Development Agency (ACDA): volunteerism – cooperative membership is voluntary; democracy and equal rights – one member – one right, all members are involved in decision-making process; financial resource consolidation – collective management of capital; independency – cooperative is an independent organ, which is controlled by the members; education, retraining and access to information – cooperative provides education, retraining and effective development of its members; collaboration for mutual interests – cooperation within cooperatives (ACDA 2014).

In total, there are 1102 officially registered agricultural cooperatives in Georgia (ACDA 2018). All legal relations regarding establishment, functioning, activity monitoring, government assistance and cooperative dissolution are regulated by the "Law of Georgia on Agricultural Cooperatives" which was adopted by the Georgian Parliament in 2013.

2.2. Assistance from Government

In order to improve the social and economic life in rural Georgia, Georgian government with recommendation of international donors and policymakers established several programs to promote the cooperative movement as it is believed that coops are efficient instruments that can solve the socio-economic problems in rural areas. In 2017 government developed 2017-2020 "Rural Development Action Plan" which is based on five basic directions: 1) Diverse economic opportunities; 2) Sustainable management of natural resources 3) Accessible social benefits 4) Rich rural life 5) Protection of environment. The plan includes Improvement of the economic perspectives of farming business, reestablishment and modernization through diversification and development of the supply chain, which will be partially accomplished by promoting and developing the cooperative movement in rurality (MOA 2017).

In 2018 Georgian government issued “The Law on Adoption of the Government Programme on Establishment of International Standards and Branding in Agricultural Cooperatives”. Aim of the programme is to promote manufacturing process in cooperatives with internationally accepted standards and assistance in reaching food safety norms, traceability and goodwill of produced products. Programme will financially support cooperatives in achievement of mentioned objectives (Government of Georgia 2018).

According to Georgian “Law on Grants”, agricultural cooperatives are the subject for grants from the government. Besides the grants, coops are also benefiting from the tax concessions: grants and revenues received from the agricultural activities are free from profit tax; property owned and used for the agricultural activity are not subject to property tax; dividends received within the cooperative activities by the members of cooperatives are free of revenue tax; there is no limit on taxable annual turnover which for the case of limited liability company (LLC) is 200,000 GEL ($74,500) (Government of Georgia 2010).

But not only grants and tax concessions are the benefits from the government, cooperatives are also provided with some trainings and extension services delivered by different state agencies, international donors and non-governmental agencies (ENPARD 2017; ACDA 2014).

2.2.1. “United Agroproject”

“United Agroproject” is a project launched by “Ministry of Environment Protection and Agriculture in 2016 and is implemented by Agriculture Projects Management Agency (APMA). The main objective of the project is promotion of agricultural production in the country. “United Agroproject” consists of 9 programmes which are focused on different development directions (APMA 2019):

1. Plan the Future – promotion of cultivation of perennial plants
2. Georgian Tea Plantation Rehabilitation Program
3. Program of Agro-production Promotion
4. Preferential Agrocredit Project

5. Young Entrepreneur
6. Co-financing of Agro Processing and Storage Enterprises
7. Agroinsurance
8. Program of Co-financing Purchased Agricultural Machinery
9. Farms/Farmers Registration Project

2.2.2. "Produce in Georgia"

"Produce in Georgia" is a programme launched by the Ministry of Economy and Sustainable Development and Ministry of Agriculture of Georgia in June, 2014. The purpose of the programme is to promote manufacturing-oriented industries, popularize investment climate and encourage business development in the country. In its starting period, program was budgeted with 24.5 million USD from which 71% (16 million USD) was allocated for development of agricultural production and processing. LEPL "Enterprise Georgia" is implementer agency of the programme (Enterprise Georgia 2019). Export support is one of the important functions of the agency. In particular, agency is responsible for popularization of export potential, increasing the competitiveness of Georgian products on international market, increasing export volumes and helping in diversification of export markets; organizing international expos and trade missions; connecting local sellers and foreign buyers, consultation in export procedures and international trade regulations and customs requirements (Enterprise Georgia 2019).

2.3. Assistance from International Donors

As Georgia is politically and economically directed towards European Union and European integration, in June 2014 Association Agreement had been signed between EU and Georgia which included the economic integration through Deep and Comprehensive Free Trade Area (DCFTA) which came into force on July 1 2016. DCFTA is an agreement regulating the bilateral trade relations between two parties and abolishes the customs duties for imports for both, Georgia and EU (EU 2014; Ministry of Economy 2014).

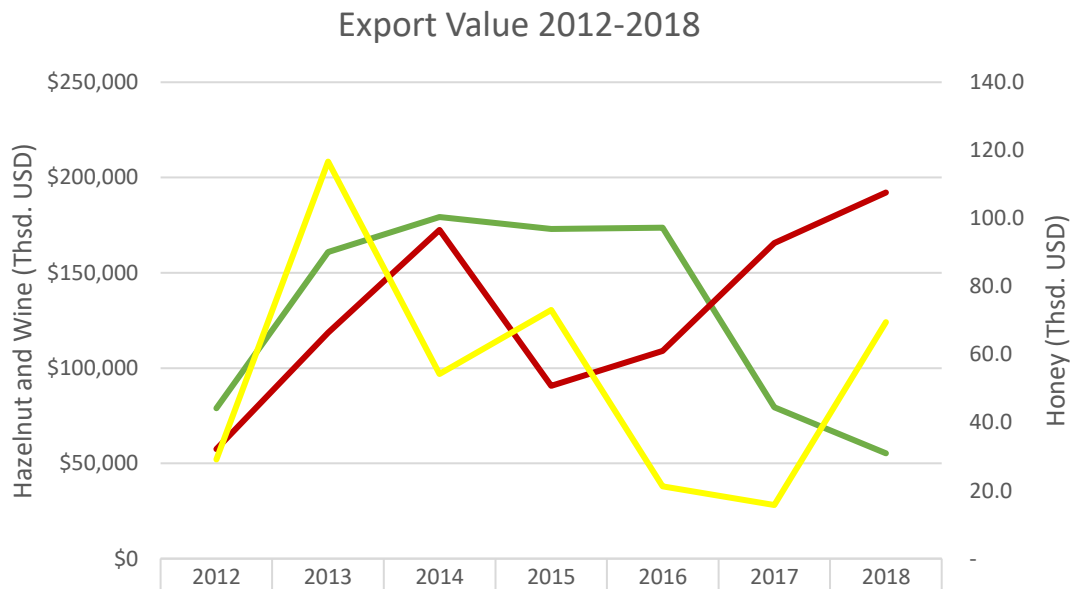
Although European market is now more accessible for Georgian producers, strict sanitary and phytosanitary requirements, food safety and quality regulations are the barriers to enter high value markets of EU. That is why EU through the participation of international non-government organizations started European Neighbourhood Programme for Agricultural and Rural Development (ENPARD). ENPARD started in 2013 and the main goal is to alleviate the poverty in rural areas. Three objectives are set to be achieved throughout the whole project:

- *To build capacity and support government institutions in the reform of the agriculture and rural development sector;*
- *To improve employment and living conditions of rural populations by strengthening farmers' cooperation skills and access to resources;*
- *To promote diversified social and economic opportunities in rural areas, particularly for women and youth, in due respect to the environment and the cultural heritage.*

Total budget provided for 2013-2020 years is €179.5 million which will be spent according to three phases of the project: I phase - €52 million; II phase - €50 million; II phase - € 77.5 million. Implementer consortia of the ENPARD programme consisted of international NGOs: CARE, Oxfam, Mercy Corps, People in Need (PIN) and the UNDP. These non-governmental organizations were responsible for provision of financial and technical support to target cooperatives and were involved in knowledge transfer via trainings and extension services in the field (ISET 2017; ENPARD 2018).

2.4. Agricultural Sectors of Honey, Wine and Hazelnuts

Three target sectors had been selected because they represent sectors with dominant number of newly created cooperatives. Wine and hazelnut are most exported agricultural products from Georgia, while honey has a big demand on international markets (see Figure 2).



	2012	2013	2014	2015	2016	2017	2018
Hazelnut	78,963.3	160,922.	179,274.	173,074.	173,702.	79,465.9	55,283.7
Wine	57,497.2	118,524.	172,421.	90,746.4	109,067.	165,585.	192,134.
Honey	29.2	116.7	54.2	73.1	21.2	15.8	69.5

Figure 2. Export value of hazelnut, wine and honey (Source: GeoStat)

2.4.1. Hazelnut

Hazelnut is one of the vital agricultural products for Georgian economy representing one of the 10 major export commodities: In year 2017 it was 8th most exported product by value, but dropped to 13th in 2018 (GeoStat 2018). Georgia is considered as one of the important hazelnut producers in the world. In 2015 it was third country by production quantity after Turkey and Italy, but now it moved to sixth, giving up its place to Azerbaijan, United States and China (FAOSTAT 2019). As shelled hazelnut has an added value and better market price than in-shell, total exported hazelnut comprises 98% shelled hazelnut exports.

Western Georgian climate is best for hazelnut production. Samegrelo-Zemo Svaneti, Guria and Imereti are major regions for cultivation. According to Georgian National Statistics Centre, Samegrelo region had a production of 15,300 tonnes in 2016, which is 52% of country's total production (see Figure 3).

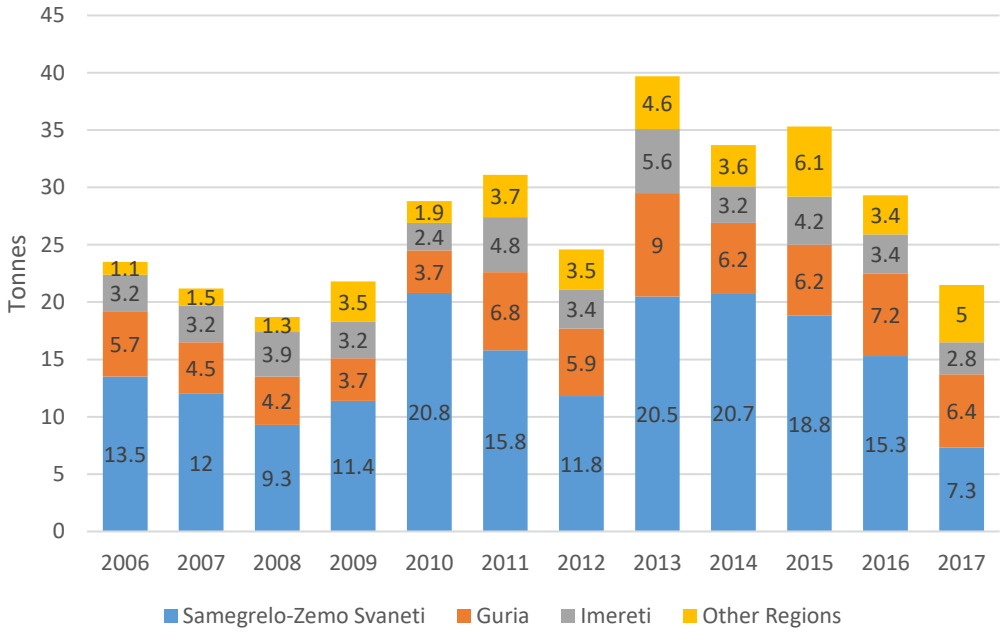


Figure 3. Hazelnut production in Georgian regions (Source: GeoStat)

However, according to statistics, in year 2018 export value of "shelled hazelnut" (combined nomenclature (CN) 080222) amounted to 55.283 million US dollars, which is 3 times less than export value in 2015 (173.702 million US dollars). Huge decrease in production is resulted from invasion of the "Brown marmorated stink bug" (*Halyomorpha halys*) and fungus destroying the plantations and storages of the harvested yields. According to FAO, total production of 29,500 tonnes in 2016 decreased to 21,400 tonnes in 2017.

Georgian hazelnut is ecologically clean and has unique taste characteristics which might be the reason of increasing global demand. It should be mentioned that kernel size is bigger than Turkish hazelnut, which might be the motive of donors to invest into development of Georgian hazelnut production (Kutateladze et al. 2013). The other reason is price, as Georgian hazelnut has inconsistent quality which is often low compared to competitor Turkey (EBRD 2018). It should be mentioned that global market

price is set by Turkey, as it is the biggest producer and supplier in the world (Factcheck 2017).

Most of the small farmer producers of hazelnut sell their produce to collection points, where price is determined by the collectors, as farmers do not have the bargaining power (see Figure 4). Besides smallholder farmers, there are associations of hazelnut producers who have their own processing plants and have their own marketing channels abroad. Processing factories consolidate the small amounts of in-shell hazelnut, process them, pack and sell them abroad. For instance, Hazelnut Processors and Exporters Association of Georgia (HEPA) which had been established through USAID's Economic Prosperity Initiative (EPI) is an association of 29 big hazelnut processor companies. Association helps its members to deal with tax, legal and financial issues and also assists with marketing and quality upgrading services (HEPA 2013). Georgian Hazelnut Corporation LLC (GHC) is one of the biggest hazelnut processors in Georgia which operates for 23 years already. Corporation owns 4 processing factories with total output of 500 tonnes per month (GHC 2016).

The Georgian Hazelnut Improvement Project (G-HIP) is a project initiated by USAID, Ferrero and Cultivation New Frontier in Agriculture (CNFA) in 2015. Project technically and financially supports hazelnut growers and processors and provides necessary trainings. Project aims to create two sustainable associations to help farmers with processing and exports. Main objective of project is to mitigate the inefficient value chain dynamics through post-harvest quality system and enhanced access to value chain stakeholders (CNFA 2015).

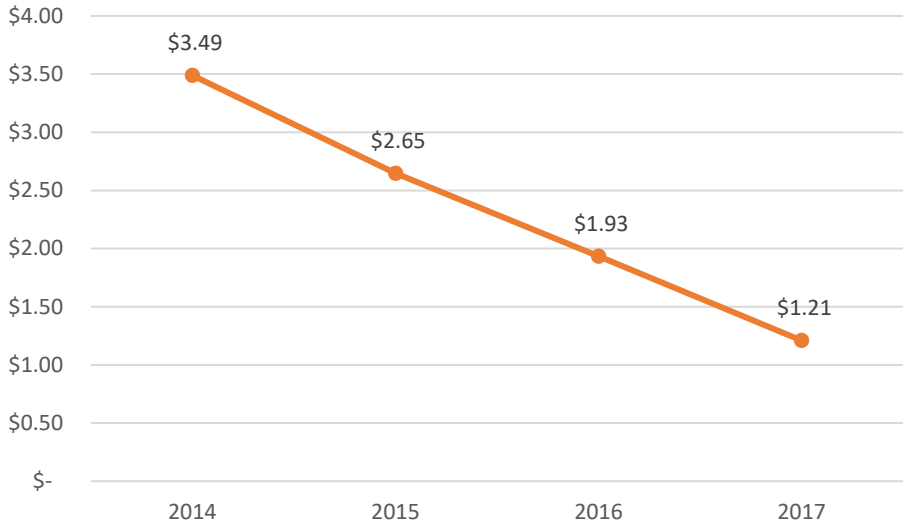


Figure 4. Farm-gate price of 1 kg of hazelnut (Source: GeoStat)

in 2016 Georgian government issued a technical regulation on hazelnut production. Regulation comprises all necessary requirements for in shell, shelled hazelnuts and processed hazelnut kernels meant for export. Technical regulation includes rules for food safety, hygiene, packaging and labelling of exported hazelnuts (Government of Georgia 2016).

European Union is major export market for Georgian hazelnut. According to EU Market Access Database, 70% (20,110 tonnes) of Georgian shelled hazelnut export was directed towards the EU market, specifically: Italy — 34% (6,819 tonnes), Germany — 32.5% (6,547 tonnes), Czech Republic — 9.6% (1,923 tonnes), France — 6.6% (1,328 tonnes) and other 14 EU states —17.3 % (3,493 tonnes). Total value of shelled hazelnut exports to EU in 2016 amounted 134.218 million US dollars (EU MADB 2019).

2.4.2. Apiculture

Apiculture and beekeeping have a very long history in Georgia. As described by ancient Greek historian Xenophon's manuscripts, apiculture in Georgia was existing in 4th century BC. Typical regions for honey production are Adjara, Guria, Kakheti and other mountainous regions. Besides the honey, beekeepers produce other value-added products like pollen, beeswax, propolis, candle, royal jelly (so called bee milk) etc.

Honey, like hazelnut and wine have a great potential for exports from Georgia. After EU representatives assessed the honey industry in Georgia, it was assumed that honey had a good chance to penetrate European market. As Europeans use honey as natural sweetener, the demand for this product is increasing from year to year. However, the effective supply from Georgian side is still challenging task.

One of the main challenges is the number of food safety and quality standards to be met. For instance, Austrian distributors had revealed a great interest for Georgian honey but refused to import to EU. The reason was the production method: most of Georgian honey is polyfloral, which means it is made of several different plants, while there is more demand on monofloral (made from one particular plant) honey. Antibiotics and pesticides are also important factors which must be considered when exporting the honey to EU market (Europe for Georgia 2015).

Second reason might be the quantity: small quantity batches are the reason why big investors has declined deals to buy the Georgian natural honey (Europe for Georgia 2015).

The main reason why beekeepers struggle to access the local market might be the existence of falsified honey, which is 2-3 times cheaper than the natural one. Consumers who cannot differentiate fake and natural honey, tend to buy the cheaper one, which is the mixture of honey and the sugar syrup. Georgian farm-gate price for 1 kg of natural honey is approximately 5-6 US dollars and major markets are middle East and Asia (See Figure 5). As most of the apiculture cooperatives do not have the access to market, they sell their products farm-gate. Buyers are often relatives, neighbours, friends and people who trust the beekeeper and are convinced that they purchase natural honey.

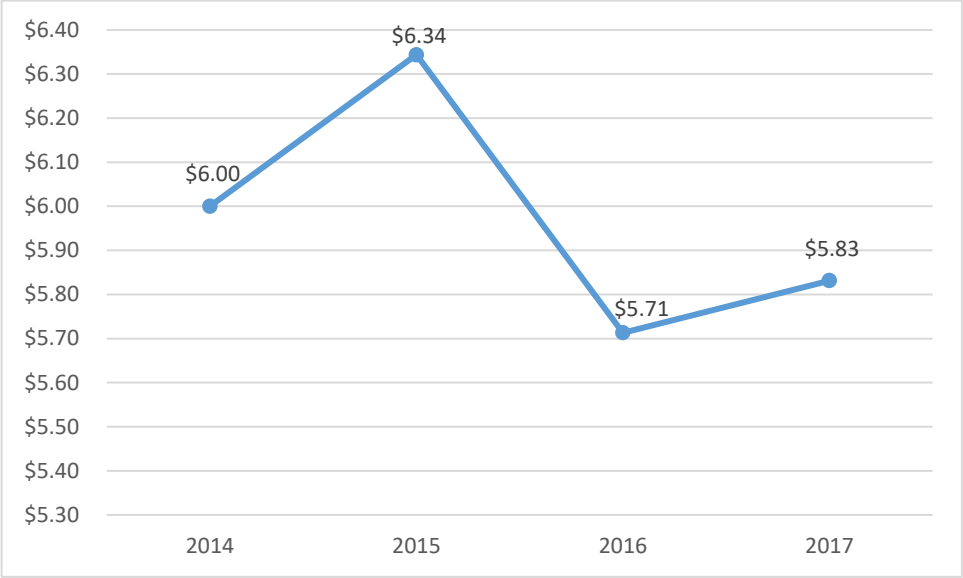


Figure 5. Honey farm-gate prices for 1 kg (Source: GeoStat)

In year 2015, Georgian government adopted a law on support of apiculture cooperatives. The aim of the law is provision of technical and financial support for apiculture cooperatives. This covers the acquisition of wooden beehives, processing equipment and capital investments for coops (Government of Georgia, 2015).

2.4.3. Viticulture

Georgia is usually considered as the origin of grape wine. By the examination of chemical compounds absorbed in the ancient pottery found in areas of Tbilisi, it was found that wine residues are from the years ca. 6,000–5,800 BC.

Grapevine or grapevine leave had been a symbol for Georgian art and culture since ancient times and can be found as an ornament on oldest cultural or historical artefacts, like churches, monasteries etc.

Vitis is cultivated in different regions of Georgia but Kakheti region in the eastern Georgia has a high concentration of vineyards because of unique climate and conditions for different species of grapes. In total, there are 527 local species of grapes cultivated in the country.

Wine production has a significant importance for Georgian economy as it is most exported agricultural value-added product. In year 2018, Georgia has sold 86,194,288 bottles (0.75 l bottle of wine) abroad bringing 192.135 million USD into the economy.

Despite the political tension with Russia, it is still top destination for Georgian wine. 53,682,627 bottles of wine had been sold to Russia in 2018, which is 63% of total wine export. Besides, 52 other countries had been a destination for Georgian wine. 22 of EU member states purchased 7,399,539 bottles in 2018 (Geostat 2018).

Main selling market of the farmers is wine factories who purchase their grapes for low price (see figure 6). Factories make wine, bottle and sell on local and export markets. Besides factories, farmers sell grapes to individuals from different parts of the country who want to make their own home wine. Some other farmers produce their own wine and mostly sell on local or regional markets, sometimes on export markets.

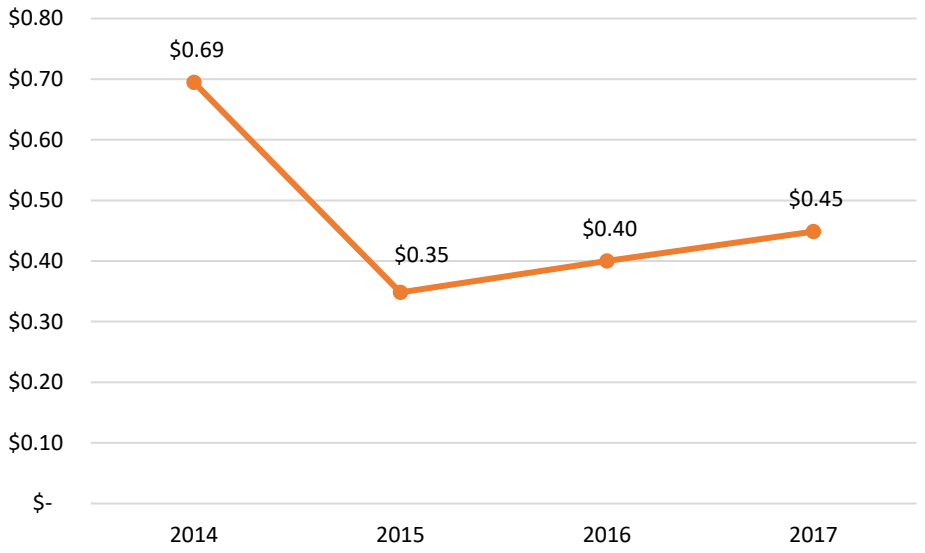


Figure 6. Farm-gate price of 1 kg of grape (Source: GeoStat)

In January 26, 2017 Georgian Parliament adopted the "Law on Adoption of Assistance Programmes for Viticulture Agricultural Cooperatives". Aims of the programme: a) Development assistance of viticulture cooperatives; b) Assistance in processing of grapes produced by viticulture cooperatives; c) Stimulation of establishment of collection and processing plants for grapes produced by cooperatives; d) Quality upgrading of produced wine; e) Improvement of socio-economic conditions for rural population of Georgia. Main objectives of the programme: a) Implementation of capital investments for provision of agricultural cooperatives with modern standard equipment and b) Assistance of wine production in accordance with international quality standards and Georgian law (Government of Georgia 2017).

3. Literature Review of Factors Contributing to the Success

3.1. Potential economic and social benefits of cooperatives

Esnard et al. (2017) identifies cooperatives as the institutions helping farmers in value adding to the agricultural products and proves that many smallholder farmers are reaching better markets because of their involvement in collective actions. Collective action or agricultural cooperative membership creates new opportunities to reach the factors of production which might not be available while being an independent smallholder farmer. Lack of resources, information, knowledge and expertise are one of the causes why agriculture is not effective in the developing countries, which itself entails the poverty. Study conducted by Wanyama et al. (2008) in Africa shows that cooperatives took an important part in pooling the financial capital and providing employment in agricultural sector which in result reduced the poverty in the region. Abate (2018) also proved that cooperatives are enhancing the equitable growth and farmers' market power which also backs the poverty alleviation. Cooperatives can be effective to reach high quality food standards in modern food value chains and help member farmers in obtaining the bargaining power (Royer et al. 2017).

Ma & Abdulai (2017) disclose the importance of cooperative membership and prove that involvement in collective action has a positive impact on price of the produced crop, gross income, farm profit, and return on investment (ROI). Altman (2015) also empathises the cooperatives' importance in bringing the democracy and freedom of the investors in the decision-making process, which is opposite for the investment owned firms (IOF) and cooperatives are discussed as the alternatives to IOF in agricultural sector. As many profit-oriented organizations, cooperatives are as well exposed to investment risks. That is why cooperatives are effective option to shift the overall risk of an organization among all members of the union (Herbel et al. 2015).

Study conducted by Figueiredo and Franco (2018) reveal that co-operators prefer social aspects and human development over the economic goals in the organization. Members' trainings and knowledge transfer are discussed as core factors for promoting productive sector transformation by adaptation of innovation and new approaches and techniques in agriculture. It is also revealed that cooperatives have important social role in rural areas, as these organizations are contributors for unification of rural communities and employment providers for them. Members of cooperatives may benefit from better access to credit service providers, information and roads. Besides the members, non-member farmers are also able to use the services of the cooperative for their own farm operations which is a sign that cooperatives can also be an instrument for local community development (Abate 2018).

However, the evidence of benefits of cooperatives is rather mixed with number of authors providing examples of important challenges and drawbacks – like freeriding, low trust, higher costs of control, problems of property rights and problems associated with principal agent inefficiencies (Nilsson 2001). Experience from Armenia shows that cooperatives are not yet beneficial and sustainable because farmers from era of "Kolkhozes" in Soviet-union are oblivious to the benefits of cooperation based on democracy and self-help, self-sustain and self-responsibility (Movsisyan 2013).

3.2. Factors Influencing Cooperatives' Success

Assessment of factors influencing the success of team work or cooperation had been an interest of many researchers and growing body of literature throughout decades. Although there are several interpretations of success, scientists from different part of the world tried to investigate broad range of variables affecting the performance of cooperatives. However, so far, there is no systematic framework to comprehensively assess factors influencing the success of cooperatives. Here, we review the literature aiming at developing a theoretical framework for our study.

Active participation in cooperative movement, loyalty and trust among members (Costa 2003; Huang et al. 2015), commitment of members and understanding of cooperation values (Trechter et al. 1997; Tremblay 2000) motivation in collective action

(Abdelrahman & Smith 1996; Wadsworth 2001), individual attributes like age and education (Wadsworth 2001; Amini & Ramezani 2008; Gimenes et al. 2016), communication and social exchange within members (Wadsworth 2001; Cole et al. 2002) might be a part of big list of factors that have an effect on cooperatives' performance. Mills & Davies (2013) considered inter-organizational culture as vital attribute of the cooperative to strengthen commitment and trust among the elements of the organization. Mazzarol et al. (2013) also identifies "partner selection" as one of the factors influencing the success of cooperative, as individual characteristics of members affect the trust and loyalty inside the organization, which itself forms the social capital.

Recent empirical studies (Francesconi & Heerink 2010; Ito et al. 2012; Vandeplas et al. 2013; Abebaw & Haile 2013) demonstrate positive impact of cooperative membership on attributes of farm performance such as farm profits, farm income, agricultural technology adoption. Aini et al. (2012) did the research among the cooperatives in Malaysia and identified cooperatives' strategic planning and members' participation as affecting factors on the cooperatives' success. Although the correlation showed the weak relation between the variables, author concludes that these factors still have an effect on the cooperative's performance.

Hunnict (2002) studied that cooperative size may influence the commitment of members. As the membership size increases, investment size and return on the investment for each member decreases. Author also considers age as important factor affecting the retains and pricing policy of cooperatives. Older members have less motivation to invest into cooperative, while young farmers have longer planning horizon and they are investing more to receive higher returns in long-term period.

As this type of organizations are based on the principles of democratic and collective management, study conducted by Figueiredo & Franco (2018) shows that cooperative members had been attracted more to distribution of decision-making power, the management of the coop and support to the well-being of local community. Research done among poultry growers' cooperatives in Iran proved that technical skills of managers, number of attended training programs, quality of training programs,

members' participation in cooperatives' administrative affairs and managers' interpersonal human skills have significant relation to the success of the cooperatives (Amini & Ramezani 2008).

Studies show that directing managers and governance can be included in the list of affecting factors: study conducted by Karantininis & Zago (2001) shows that management's attitude towards the heterogeneity of members is important as authors suggest that managers need to have new approaches to cooperate with diversity of members; Azadi et al. (2010) discloses the interest of manager and understanding the concept of cooperation as important factors in successful management of coop; Hakelius (2018) shows the impact of management board size, amount of external directors, tenure, attitude and education of directors on the cooperative performance.

Literature also stresses that institutional governance (how power is exercised, who is involved and how the benefit is distributed) is important for economic growth of decision-making units (Graham et al. 2003). Together with good institutions (internal rules), good governance promotes an organisation's performance (North 1990). Liang et al. (2015) provide a useful review of member participation and performance of cooperatives. The authors found that social capital have a significant and positive impact on economic performance of cooperatives.

Government policies and support for establishment and development are the external factors which are influencing the success of cooperatives (Mazzarol et al. 2013), as governments provide tax benefits and funds which is motive for farmers to establish or join the cooperative. Even in case of EU policies, there are funds directed to cooperative development (Bijman & Iliopoulos 2014).

It should be mentioned that market access might have an important influence on the performance of cooperative. Azadi et al. (2010) reveals that market access is an important external factor which helps the cooperative members in defining the product price and also strengthening the bargaining power on the market. Other researchers also underline the impact of market access on members satisfaction and cooperatives' overall performance (Sexton & Iskow 1988; Harris et al. 1996; Ollila & Nilsson 1997; Pinto 2009).

4. Theoretical Framework of the Analysis

4.1. Economies of Scale

For explanation of the economic and social success of cooperatives we borrowed the general methodological framework from several existing theories and hypothesis. The economic success and positive impact on farm-gate price, income and quality is usually explained by economies of scale and transaction costs theories.

Smallholder farmers are producing very small output, that is why they are struggling to get the economies of scale and obtain the market power compared to their larger trading partners. Moreover, they face number of obstacles when trying to acquire the resources needed to improve their farm productivity and sell the product on the market (Herbel et al. 2012). Joint forces, combined resources and shared factors of production lead to higher quantity of produced goods, minimizes the production costs for the member farmers (Abate 2018; Valentinov & Iliopoulos 2013). Economies of scale is one of main points why collaboration and collective action inside the cooperative is essential for economic performance of the organization (Valentinov & Iliopoulos 2013; Altman 2015; Abate 2018). Altman (2015) sees cooperatives as a tool for smallholder farmers to survive the competition with large investor-owned companies in agriculture and reveals significance of existence of smallholder farmer unions in developing countries as these collaborations help to increase food security and reduce poverty in rural areas.

When speaking about the economic importance of cooperatives, it is fair to mention that cooperative members get better access to both - input and output markets. Besides group organization of sells, cooperative membership can also reduce the input purchase price for members as bulk purchases lead to discounts from input providers (Altman 2015; Abate 2018).

4.2. Transaction Costs

Transaction costs are costs caused by different types of exchanges on market. This include cost of discovering market prices, finding information and enforcing contracts. Vertical integration trough franchising, merging corporations or cooperative movement are the ways to eliminate such costs while operating on the market (OECD 1993).

According to North (1987) transaction cost is a cost incurred on delivery of goods or services between two parties. Author considers that transaction cost is one of the important barriers for economic growth of an institution.

Hernández-Espallardo et al (2013) states that effective control of transaction costs provides better return to cooperative members than if farmers had to interact with buyers or suppliers in isolation.

Joint forces and bigger quantity of produced goods minimizes both - production and transaction costs for the member farmers (Valentinov & Iliopoulos 2013; Altman 2015; Abate 2018).

Abate (2018) recognises the importance of agro-cooperatives for member farmers as membership in such institutions assist farmers in expanding the "countervailing power" inside markets and internalize transaction costs. They help the member farmers to obtain the financial resources, infrastructure and research & development (R&D) through the participation in collective action, while all of these mentioned would be impossible if farmers operated alone (Figueiredo & Franco 2018).

4.3. Social capital in Cooperatives

Besides observed economic benefits, the cooperative usually bring also changes in the social position of members and some non-economic benefits.

Very famous and widely recognised American sociologist James Coleman defines social capital as: "…variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors-

whether persons or corporate actors-within the structure" (Coleman 1988). In another words, social capital is a network of relationships, reciprocity and trust that facilitates the collective action (Portes 1998).

When discussing factors of production, economists mostly consider financial capital, human capital, etc., as important types of capital, but influence of social capital was neglected for a long time. Intensified study of social capital started from the beginning of 21st century, when economists and sociologists discovered the power of network of relationships within and outside the group (Svendsen & Svendsen 2005).

There are two main types of social capitals: bonding and bridging social capitals. Bonding social capital is related to nature of relationships within the homogenous social group, while bridging social capital is relationships among the social groups (Svendsen & Svendsen 2005).

As markets develop and well-developed value chains are needed to deliver from one player to another, social capital is playing a significant role in order to establish good internal (inside cooperative) and external interactions (outside the cooperative). It is proved that social capital has positive correlation with cooperatives' successful operation. Although social capital needs time and effort to be accumulated inside the community, the results are worth it (Kaganzi et al. 2009).

Research done by The Caucasus Research Resource Centers shows that collaboration becomes easy when the group or association has more social capital (CRRC 2011). Studies show that developing economies are experiencing lack of social capital in collective actions, which is considered as one of the reasons why institutional development is not effective (Herbel et al. 2015).

Like one of the post-Soviet countries, Georgia is observed as country with higher "bonding" capital, but low "bridging" social capital. Whilst there is a higher trust and high social capital in small family and friend groups, trust and interdependence weaken when formal cooperation and affiliation is brought to external level outside the family (Hough 2011). There is a problem of getting social capital in Georgia. While the Georgian society is viewed as a whole and people has solidarity to neighbours, family members

and friends, it is still considered that there is a lack of social capital in the formalized associations and collective actions (Aghladze 2017).

Although social capital plays an important role in development of cooperatives', study carried out by Deng & Hendrikse (2016) shows that social capital tends to decrease towards the development of cooperative. Research discloses that cooperative income rights should be reconsidered in order to keep the positive balance of social capital within the organization.

5. Aims of the Thesis

As literature review suggested, cooperative movement might be the promising tool for their development. But literature also showed many negative examples and the evidence of benefits of cooperatives is rather mixed with number of authors providing examples of important challenges and drawbacks. Poor rural development and lack of cooperation and institutional arrangement among small and middle-size farmers entail poverty in rural families. The question is whether cooperatives change this situation? Are cooperatives “panacea” for economic and social inefficiency in rural areas?

Region of Eastern Europe including the post-Soviet countries has also very specific and difficult history of cooperative movement with many farmers still remembering forced collectivization and state-controlled collective farms. However, even here there is nowadays call of national governments and international donors into revival of cooperative movements as a potential solution of many challenges faced by small and atomized farmers.

Even within one region or country there are sectors where cooperatives growth and serve as viable business for small and middle-size farmers, whereas in other sectors they barely survive or don’t emerge at all. Therefore, the aim of the thesis was to understand which economic and non-economic benefits the newly created cooperatives in Georgia bring and which attributes pertaining to different multi-dimensional aspects; i. e. “individual”, “institutional”, and “external” play significant role in shaping a successful cooperative.

Main objectives:

1. Provide institutional typology of new agricultural cooperatives and describe main types of cooperation resulting from national and international interventions
2. Compare impact on members of newly established farmers’ groups in terms of economic and non-economic performance across three agricultural sectors
3. Determine individual, institutional and external factors influencing the economic impact on members

6. Methodology

6.1. Research Design

The applied research approach was based on cross-sectional non-experimental quantitative research method. The research used a combination of primary data collected in October-November, 2017 and in September, 2018.

6.2. Study Site

Study was conducted in Georgia comprising 7 regions and 22 municipalities. Highlighted (striped) regions on map (see Figure 7) are the visited regions and had been

Figure 7. Administrative map of Georgia (visited regions highlighted) (Source: Author)

chosen because of high concentration of cooperatives. Doted regions (Abkhazia and South Ossetia (Tskhinvali Region)) with red borders on the map are occupied by the Russian military forces and are considered as conflict zones.

6.3. Analysis of the three main agricultural value chains

As an initial step general overview of three agricultural value chains was carried out. The goal of this analysis was to provide background information for all three

analysed sectors. The original research was carried out by students of the Czech University of Life Sciences Prague with the support of local NGO - the Association of Young Economists of Georgia in 2015. This thesis benefits from the secondary data collected during the research.

Data collection was organised and methods selected in order to assess specific issues from different angles supported by a triangulation of qualitative methods in order to provide detailed survey thematically focused around each selected product.

For the value chain analysis mainly, qualitative research based on key-informants and group of farmers was used. Main qualitative research method was used method of semi-structured in-depth interview. Interviews were conducted with small number of key informants who had first-hand knowledge about the examined issue. Each interview took from 1.5 to 2 hours. Diversity of key informants was important to cover whole value chain from suppliers to the local market. It means to identify and interview different-sized farmers (from small subsistence to commercials), collectors, middlemen, processors, sellers on a local market, exporters, together with agro-shops selling seeds or seedlings and different kinds of tools, technology, pesticides, herbicides, fertilizers or other inputs. The interviews were also enriched by focus group discussions with respective farmers.

The secondary quantitative and qualitative data relies heavily on an examination of existing, accumulated research, combining official government data with studies conducted by international organizations such as FAO and EU.

6.4. Cooperatives Study Sample

For the main research of benefits of cooperatives in all three sectors, the main target group consisted of cooperatives established through the donorship of European Union through European Neighbourhood Programme for Agricultural and Rural Development (ENPARD). Cooperatives established through the project comprised 281 cooperatives with total 4669 members (ISET 2017). Cluster sampling was employed as study was limited to only three dominant agricultural sectors: apiculture, hazelnut and

viticulture. In result study sample decreased to 91 cooperatives (1502 members). The data collection was done in two steps – institutional level data collection by interviews with coop managers and member level by interviews with members.

Institutional data were collected from all 91 cooperatives. During the member data collection, the sample downsized to 37 cooperatives with 93 members, especially due to the members' unwillingness to participate in the survey. Several cooperatives reported that they stopped or interrupted any group activity. Snowball sampling method was used to reach the members from each cooperative and final sample consisted of n=93 members from total 37 apiculture, grape and hazelnut cooperatives in Georgia. Therefore, for analysis of typology, the 91-sample size was used, while for member-level data (objective 2 and 3) only sample of 37 cooperatives was used.

Since the success cannot immediately be evaluated after establishing a cooperative, the sample of this study includes those co-operatives which were established, at least, three years ago.

6.5. Survey Instrument

Structured questionnaires were used to interview the cooperative managers and member farmers. Data collection in 2017 was done by ISET and survey questionnaire was developed by monitoring and evaluation (M&E) working group with implication of four consortia: CARE, Mercy Corps, Oxfam, People in Need and UNDP. The survey covered all cooperatives from three sectors, but covered only interviews with managers of the cooperatives with data about the institutional level of the whole organization.

In order to get more detailed data on individual members, another data collection was done by the author and group of students from the Czech University of Life Sciences Prague with the help of recruited and trained Georgian students from Akaki Tsereteli State University in 2018. Likert-type scale, semantic differential scale, multiple choice and open-ended questions were employed in member-questionnaires. The questionnaire consisted of 83 questions from 4 categories (Demographic and Socio-Economic Data; Factors That May Influence Farmers Decision to Join Cooperatives;

Performance Criteria and Social Capital). Tablets with pre-installed "Nestforms" application were used for collecting the data and digitalizing the responses for easy formatting process.

6.6. Data Analysis

6.6.1. Institutional Typology

Cooperative-level data collected by ISET (International School of Economics in Tbilisi) in 2017 was used to create the institutional typology of cooperatives. Target cooperatives (all new 91 cooperatives) are the cooperatives from 3 sectors: apiculture, viticulture and hazelnut. Simple frequency distribution into given intervals was used as a main analytical method.

Cooperatives were structured according to the following characteristics:

Table 1. Institutional typology criteria

Category	Variable	Description
Activity	Sector	Cooperatives by the production sector
Membership base	Gender	Male, Female
	Age	Age dominants in cooperatives
	Education	Number of cooperatives by dominant education levels
	Geography of members	Cooperatives consist of members located in different geographical locations
Institutional	Cooperative size	Size of cooperatives by number of members
	Management board size	Number of members in the management board

	Frequency of general assembly meetings	Number of assembly meetings during a year
	General assembly attendance	Share of members attending the meetings
	Nuclear families	Number of nuclear families in the cooperative
Economics	Agriculture as main income	Share of members whose main income source is agriculture
	Dominant shareholders	Distribution of shares among cooperative members
	Investment	Cooperatives which reinvested or distributed most of the earned profit
Markets	Target markets	Markets where cooperatives' most products are sold

6.6.2. Comparative Analysis of Sectors

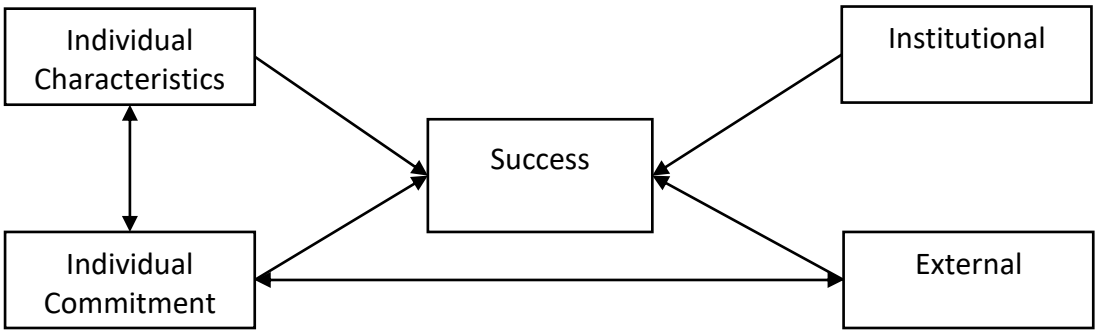
Single factor ANOVA was run in "Statistica 13" software for comparison of different sectors in terms of economic and non-economic benefits. Data sets of all three sectors had been tested through test of normality of distribution and test of homoscedasticity (homogeneity of variance).

6.6.3. Analysis of Factors Influencing Success

In order to understand the interactions between the main individual, structural, and external factors, which can influence the success rate of the cooperatives and predicting their influence on the variations of the success, an ordered logistic regression was estimated.

We defined factors leading to success of local cooperatives in a similar way as for example of Azadi et al. (2010) and Markelova et al. (2009). For our study as pertaining to different multi-dimensional aspects; i.e. "individual", "institutional" and "external".

We assume that most of external factors are being constant since all cooperatives were target by intensive campaign and extension by ENPARD project.



"Success" as the main dependent variable, is defined as the function of maximizing different cooperatives' developmental goals that could potentially be gained by an individual in the cooperatives: *Income Increase, Lower price for inputs, Higher price on product, Reduction in cost of production, Improved bargaining power, Less time for marketing and selling, and Improved access to credit and savings services*.

The success is individual with observation period in 2018, but all institutional variables are coop-level with period of observation in 2017.

Specification of the model:

$$Suc = \alpha + \beta_1 gen + \beta_2 age + \beta_3 len + \beta_4 trst + \gamma_1 actprtc + \gamma_2 prdc + \delta_1 cpsz + \delta_2 shrwmn + \delta_3 avage + \delta_4 nuc + \delta_5 eqshar + \omega_1 win + \omega_2 haz + \omega_3 hon + \mu$$

Suc = Success

β - influence of member characteristics (individual):

- *gen = gender*
- *age*
- *len = length of membership*
- *trst = trust in cooperative*

γ – influence of individual commitment (farmers participation):

- *actprtc = active participation (% share of members attending meetings)*
- *prdc = members produce through the cooperative (%)*

δ – influence of Institutional factors:

- *cpsz = size of the cooperative (number of members)*
- *shrwmn = % share of women)*
- *avage = age (average age)*
- *nuc = family nucleus (% share in total members)*
- *eqshar = equality of shareholders*

ω – influence of external factors (sector – dummy variables):

- *win = Wine (0,1)*
- *haz = Hazelnuts (0,1)*
- *hon = Honey (0,1)*

As literature suggested age, education, processing equipment, distance from market had an effect on success of the cooperative, but in our case these independent variables had a very small variance, thus were excluded from the model.

6.7. Limitations of The Study

As data collected by the author in 2018 was based on the perception and subjective opinion of the members, their responses do not fully describe the real situation. Opinions of member farmers were used to understand how they individually perceive the benefits of membership and how collective action affected their well-being. Unfortunately, farmers did not keep any basic financial recordings which could be used for assessment of their economic performance in numbers.

One of the limitations of the study was member farmers' unwillingness to participate in survey. Some of the farmers were busy because of harvesting period but most of them just refused to participate without providing reasons. From 91 cooperatives 74 were contacted and only 37 coops (93 members) participated in the survey.

7. Results

7.1. Institutional Typology

7.1.1. Activity

According to analysis, majority of target cooperatives are the apiculture cooperatives. Which might be explained by the apiculture sector believed to be profitable and having more potential for export.

Sector	Apiculture	Hazelnut	Viticulture
No. of Cooperatives	48 (53%)	22 (25%)	21(23%)

7.1.2. Membership base

As we can see, majority of cooperatives are male dominated. Probably this is because males are the heads of households who are involved in agriculture and females are housewives dealing with family matters.

Gender	Female dominated	Equal	Male dominated
No of Cooperatives	8 (9%)	4 (4%)	79 (87%)

The reason that most cooperatives (more than 50) have dominant old members might be the migration of young people from rural to urban areas. The young co-operators are probably the family members who are involved in cooperative movement because of their parents.

Age category	18-25	26-40	41-60	More than 60
Cooperatives	0	26	13	53

Big number of high educated co-operators can be explained by the collapse of USSR: people with high education lost their jobs during the economic transition in 1990's and migrated to rural areas to survive dark times in the country.

Education level	Primary	Vocational	Secondary	Higher
Number of Cooperatives	0	13	26	53

Majority of cooperatives consist of members who are from one municipality but different villages.

Location of members	From same village	One municipality but different villages	From various municipalities	From several regions
Number of Cooperatives	33	39	17	2

7.1.3. Institutional

As seen on the table 90% of cooperatives are small cooperatives between 1-15 members, while smallest coop has 3 members (min. legal requirement) and 520 members in the largest cooperative (hazelnut).

Size	1—5	6—10	11—15	16—20	21—26	More than 26
No. of Cooperatives	26	27	28	2	3	5

Small number of board members can be explained by the size of the cooperatives themselves. As majority of cooperatives are small size, management board is also relatively small. It should be also mentioned that the law requires minimum 2 members in the board.

Members of the board	2	3	4	5	More than 5
Number of Cooperatives	21	56	4	6	4

The cooperative in the category "Other" had an assembly meeting 22 times during a year. It is an apiculture cooperative with 12 members but only a half of members attending the meetings.

Frequency of meetings	Every month	Once in 3 months	Once in 6 months	Once in 12 months	On-demand	Other
Number of Cooperatives	1	17	28	22	22	1

It is interesting that most of assembly meetings are unified, which is a sign of active participation of members in cooperative affairs, which might be one of the success factors of cooperative.

Share of members attending assembly meetings	0-20%	21-40%	41-60%	61-80%	81-90%	100%
Number of Cooperatives	1	5	3	10	5	67

It is surprising to see biggest part of cooperatives consisting of different families, as organizations in Georgia are characterised with high bonding and low bridging social capital.

Nuclear family	1-2	3-4	5-6	7-8	More than 8
Number of cooperatives	1	16	24	17	33

7.1.4. Economic

Cooperatives with dominant shareholders

Share	Less than 5%	5-10%	10-20%	20-30%	More than 40%
Number of Cooperatives	25	26	25	15	0

Apparently, most of the cooperatives members' main income source is agriculture, but there are just 8 cooperatives whose majority of members' main income is received as salary from public sector employment.

Share	0-20%	21-40%	41-60%	61-80%	81-100%
Number of Cooperatives	10	10	20	20	31

It must be mentioned that from 12 cooperatives with no profit there is just 1 viticulture cooperative, 5 hazelnut and 6 apiculture cooperatives.

Profit Use	Reinvested	Distributed	Equal invested/distributed	No profit
Number of cooperatives	28	45	6	12

7.1.5. Market

It is worth mentioning that there are 4 apiculture cooperatives from total 6 with no market access and none of apiculture cooperatives had an access to foreign market (export).

Major Market	Local	National	Export	No market access
Number of Cooperatives	66	15	4	6

7.2. Comparative Analysis of Sectors

Table 2. Evaluation of economic performance of cooperative in last three years

	Grapes (G)		*Hazelnut (Ha)*		*Honey (Ho)*		*ANOVA*	*ANOVA*
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*Between sectors*	*results*
Income Increase	3.26	1.16	1.47	1.28	2.89	1.09	1.1609E-07***	G > Ho > Ha
Lower price for inputs	2.56	1.34	1.30	1.24	2.58	1.13	5.78E-05***	G, Ho > Ha
Higher price on product	2.37	1.47	1.07	1.08	2.17	1.28	0.0003***	G, Ho > Ha
Reduction in cost of production	2.59	0.93	1.70	1.29	2.36	1.20	0.0117**	G, Ho > Ha
Improved bargaining power	2.89	1.05	2.40	1.07	2.78	1.12	0.1995	--------
Less time for marketing and selling	1.78	1.22	1.77	1.22	2.42	1.18	0.0473**	G, Ha < Ho
Improved access to credit and saving services	2.89	1.37	2.53	1.36	3.39	0.77	0.0139**	G, Ha < Ho

* = 0.1; ** = 0.05; *** = 0.001;

Table 3. Evaluation of non-economic and social benefits of cooperative members in last three years

	Grapes (G)		*Hazelnut (Ha)*		*Honey (Ho)*		*ANOVA*	*ANOVA*
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*between sectors*	*results*
Improved service from input suppliers	2.93	0.83	2.70	1.09	2.56	1.03	0.3467	--------
Access to market information	2.96	0.85	2.63	0.96	2.92	1.11	0.3850	--------
Improved extension services	2.56	0.97	2.40	1.25	2.81	1.12	0.3373	--------
Better access to processing	2.93	0.83	2.37	1.19	2.86	1.02	0.0759*	G, Ho > Ha
Increased social contacts	2.96	0.94	3.00	1.02	3.00	1.01	0.9867	--------
Access to information about good agricultural practices	3.19	0.68	2.73	1.28	3.28	0.91	0.0740*	G, Ho > Ha
Increased opportunity for further trainings	3.19	0.92	3.03	1.25	3.06	1.04	0.8490	--------
Better chance to share experience with other farmers	3.44	0.70	3.47	0.90	3.39	0.90	0.9284	--------
Increased opportunity to participate in community development	3.11	0.70	2.13	1.43	2.31	1.09	0.0032**	Ha, Ho < G
Members candidly share their views in cooperative	3.48	0.75	3.70	0.47	3.81	0.40	0.0679*	G < Ha < Ho
Members share their need with each other	3.48	0.58	3.53	0.57	3.61	0.60	0.6755	--------

* = 0.1; ** = 0.05; *** = 0.001;

7.3. Analysis of Factors influencing Success

Table 4. Summary statistics of regression variables

Regression Variable	Responses		
Member Characteristics			
Gender	Male	67	72%
	Female	26	28%
	Mean	*SD*	
Age	48.817	13.510	
Length of membership	3.591	1.182	
Members' perception of benefits of cooperation	*Mean*	*SD*	
Trust in cooperative	3.552	0.649	
Income Increase	2.538	1.388	
Lower price for inputs	2.161	1.354	
Higher price for products	1.871	1.385	
Reduction in cost of production	2.215	1.206	
Improved bargaining power	2.688	1.093	
Less time for marketing and selling	2.022	1.233	
Improved access to credit and savings	2.968	1.211	

Results of Ordered Logistic Regression showed that dependent variables: Lower price for inputs, Improved bargaining power, less time for marketing and selling, improved access to credit and saving services were insignificant.

Sector variables wine (0,1), hazelnut (0,1) and honey (0,1) had been omitted from the model because of honey variable causing multicollinearity.

Table 5. Results for dependent variable: income increase

Variable	Coefficient	p-value	Std Error	dy/dx
Gender	-0.008	0.986	0.459	0.0007
Age	-0.030	0.110*	0.019	0.0025
Length of membership	-0.185	0.312	0.183	0.0155
Size of cooperative	-0.005	0.001***	0.002	0.0005
Share of nuclear families	-0.819	0.480	1.158	0.0688
Active participation	0.556	0.462	0.755	-0.0467
Members produce through coop	0.008	0.278	0.007	-0.0007
Equality of shareholders	0.022	0.907	0.187	0.0018
Trust	0.055	0.731	0.160	-0.0046
Share of women	-2.360	0.093*	1.404	0.1984
Average age	0.016	0.670	0.037	0.0013

* = 0.1; ** = 0.05; *** = 0.001;

Table 6. Results for dependent variable: higher price on product

Variable	Coefficient	p-value	Std Error	dy/dx
Gender	0.529	0.244	0.455	-0.0891
Age	-0.026	0.149	0.018	0.0041
Length of membership	0.050	0.770	0.170	-0.0078
Size of cooperative	-0.002	0.109*	0.002	0.0004
Share of nuclear families	-2.060	0.071*	1.143	0.3239
Active participation	1.800	0.021**	0.781	-0.2830
Members produce through coop	0.006	0.432	0.007	-0.0009
Equality of shareholders	0.068	0.710	0.182	-0.0106
Trust	-0.166	0.299	0.159	0.0260
Share of women	-2.507	0.058**	1.321	0.3942
Average age	-0.068	0.056**	0.036	0.0108

* = 0.1; ** = 0.05; *** = 0.001;

Table 7. Results for dependent variable: reduction in cost of production

Variable	Coefficient	p-value	Std Error	dy/dx
Gender	-0.044	0.924	0.463	0.0035
Age	-0.027	0.139	0.018	0.0022
Length of membership	0.137	0.464	0.188	-0.0110
Size of cooperative	-0.002	0.173	0.002	0.0002
Share of nuclear families	-1.041	0.362	1.142	0.0836
Active participation	1.918	0.014**	0.784	-0.1541
Members produce through coop	-0.010	0.193	0.008	0.0008
Equality of shareholders	0.055	0.774	0.191	-0.0044
Trust	-0.056	0.726	0.160	0.0045
Share of women	-2.496	0.070*	1.380	0.2005
Average age	0.038	0.304	0.037	-0.0030

* = 0.1; ** = 0.05; *** = 0.001

8. Discussion

Different variables had been examined to identify the factors which influence the success of agricultural cooperatives. Results show that age of the members has negative influence on the success of cooperative, which is also studied by Masuku et al. (2016), who states that it is necessary to encourage young farmers to join cooperatives as old farmers fail to accomplish their obligations. Amini and Ramezani (2008) also studied that older members are characterized with inactive participation and lack of initiative which negatively affects the overall performance of the cooperative. As seen from objective 1 typology, 53 of 91 cooperatives have majority of members over the age of 60. These are farmers coming from era of Soviet "kolkhozes" and they might not have clear understanding of democratic principles of cooperation, which might also affect the social capital inside the organization. Hunnicutt (2002) also revealed that older farmers have shorter planning horizon, which means that they do not have motivation to invest in long-term success of the cooperative. While young members have longer planning horizon, they invest more now to receive higher returns in long-term.

Results indicate that share of women has negative effect on success. There are several studies which examined gender influence on cooperative. Barham and Chitemi (2009) argued that male dominated cooperatives perform better. Study carried out by Masuku et al. (2016) also proved that female participation has negative effect on cooperative performance but Westermann et al. (2015) studied that females can also bring the benefit into coop. Author states that collaboration, solidarity, and conflict resolution increase where females are present. It should be mentioned that implementer donors required to involve females in the cooperative movement, but females are inactive as most of them dedicate their time to family and household.

This study also revealed that size of the cooperative has negative effect on success but the effect is very small as most of the target cooperatives are not big and have no big differences in membership size. Hunnicut (2002) also concluded that cooperatives with less members may benefit from higher commitment of members, since each member gains larger portion of investment and return. Zheng et al. (2012),

Wollni and Fischer (2015) also studied that membership size negatively affects the dedication of farmers.

Results show that active participation of members has positive effect on the success of the cooperative. Similar results had been found by Ma and Abdulai (2017), who revealed that active participation positively influences the product price, gross income, farm profit and return on investment. Fischer and Qaim (2012) also proved that membership increases output price. Amini and Ramezani (2008) studied that members' active participation in cooperative affairs has an important positive correlation with coop's success. Verhees et al. (2015) revealed that without active participation cooperative will not be able to benefit from economies of scale and reduction in transaction costs. Authors also state that active participation is important for members to share their experience among each other and that passiveness will have a negative effect on the democracy in decision making inside the organization, which itself decreases the social capital finally influencing the success. Active participation for Georgian member farmers is important precondition to enjoy economies of scale as all members individually have a very small portion of land inherited from privatisation of state-owned land. Moreover, farmers received extension trainings from different organizations, active cooperation facilitates sharing of knowledge inside organization and helps farmers to explore more about modern agricultural practices. Active participation also contributes to increase of social capital in cooperatives.

We can observe from results that share of nuclear families negatively affects the success. This can be explained by CRRC (2011), Hough (2011) and Aghladze (2017) who state that there is high bonding and low bridging social capital in Georgia. Cooperatives and organizations are used to work and collaborate with people who are from same family or they feel more trustful towards friends or relatives than to outsiders and strangers.

As it seen from objective 2 (comparative analysis of sectors) results, members of hazelnut cooperatives were not able to enjoy from economic benefits of cooperation. This can be explained by fungi infection and invasion of "brown marmorated stink bug" destroying yields and plantations of hazelnut. Cooperatives from all three target sectors

are technically and financially supported by government and international donors, which means they all have more or less same opportunity for development.

There are some specific barriers for each sector. For example, as seen from Figure 2, there is very low export of honey, which is caused by honey producers unable to meet the sanitary standards set by export markets. With many intentions to export Georgian honey abroad, it was rejected because of presence of *Escherichia coli* bacteria in samples. Despite of fact that honey cooperatives cannot export honey abroad, they still sell their products farm-gate to neighbours, relatives and friends which is the main source of income for members individually. Some of the cooperatives sell their honey to local grocery shops, but many cooperatives complained that because of existence of cheap falsified honey, demand for their natural honey decreased.

Thesis recommends to continue studying of success factors as target cooperatives in the current research are newly created (3-4 years) and they need more time to fully absorb benefits of cooperation. It should be mentioned that similar studies done in different countries cannot be directly applied to Georgian case as farmer groups from different economies and cultures act differently, thus more precise and narrowed approach is needed for assessment of success factors in Georgia.

9. Conclusions

Many researchers tried to investigate the factors which influence the success of the cooperative, and success in every case was interpreted in various ways. Therefore, the main goal of the thesis was to find out which factors influenced economic and non-economic benefits of newly created agricultural cooperatives in Georgia.

Typology of cooperatives showed that most of the cooperatives are very small (53 cooperatives with 1-10 members) and they consist of old members but share of members attending general assembly meetings showed positive signs for participation in cooperative affairs.

Results from comparative analysis showed that newly established grape and honey cooperatives improved their economic performance with the financial and technical support of government and international donors, but yet not fully benefit from cooperative movement. Hazelnut cooperatives did not enjoy from benefits of cooperation as pest and diseases had influence on their economic performance. Members of all three sectors had more or less equal perception on non-economic benefits.

Study results showed that members' age, cooperative size (number of members), share of nuclear families have negative affect, while active participation showed positive correlation with cooperatives' success.

10. References

Abate GT. 2018. Drivers of agricultural cooperative formation and farmers' membership and patronage decisions in Ethiopia. Journal of Co-operative Organization and Management **6**:53-63.

Abdelrahman AH, Smith C. 1996. Cooperatives and agricultural development: A case study of groundnut farmers in western Sudan. Community Development Journal **31**:13–19.

Abebaw D, Haile MG. 2013. The impact of cooperatives on agricultural technology adoption: Empirical evidence from Ethiopia. Food Policy **38**:82-91.

ACDA (Agricultural Cooperatives Development Agency). 2014. Guidelines of Agricultural Cooperatives (in Georgian), Tbilisi.

ACDA (Agricultural Cooperatives Development Agency). 2018. Cooperative Statistics. Available from http://acda.gov.ge/index.php/eng/static/118 (accessed March 2019).

Aghladze N. 2017. The Impact of Social Capital on FDI in Georgia. European Journal of Economics and Business Studies **9**:17-24.

Aini MY, Hafizah HAK, Zuraini Y. 2012. Factors affecting cooperatives' performance in relation to strategic planning and members' participation. Procedia - Social and Behavioral Sciences **65**:100-105.

Altman M. 2015. Cooperative organizations as an engine of equitable rural economic development. Journal of Co-operative Organization and Management **3**:14-23.

Amini AM, Ramezani M. 2008. Investigating the success factors of poultry growers' cooperatives in Iran's western provinces. World Applied Sciences Journal **5**:81-87.

APMA. 2019. Projects. Agricultural Projects Management Agency. Available from http://apma.ge/projects/ (accessed April 2019).

Azadi H, Hosseininia G, Zarafshani K, Heydari A, Witlox F. 2010. Factors influencing the success of animal husbandry cooperatives: A case study in Southwest Iran. Journal of Agriculture and Rural Development in the Tropics and Subtropics **111**:89-99.

Barham J, Chitemi C. 2009. Collective action initiatives to improve marketing performance: Lessons from farmer groups in Tanzania. Food Policy **34**:53–59.

Bijman J, Iliopoulos C. 2014. Farmer's cooperatives in the EU: policies, strategies, and organization. Annals of Public and Cooperative Economics **85**:497-508.

Birchall J, Ketilson LH. 2009. Resilience of the Cooperative Business Model in Times of Crisis. International Labour Organization. Available from https://www.ilo.org/ (accessed November 2018).

CRRC (Caucasus Research Resource Centers). 2011. An Assessment of Social Capital in Georgia. Available from www.crrc.ge (Accessed June 2018).

CNFA. 2015. Georgian Hazelnut Improvement Project. Available from https://www.cnfa.org/program/georgia-hazelnut-improvement-project/ (accessed April 2019).

Cole SM, Schaninger W JR, Harris GS. 2002. The Workplace Social Exchange Network: A Multilevel, Conceptual Examination. Group & Organization Management **27**: 142-167.

Coleman J. 1988. Social Capital in Creation of Human Capital. The American Journal of Sociology **94**:95-120.

Costa AC. 2003. Work team trust and effectiveness. Personnel Review **32**:605-622.

Curtis EG. 1995. Armenia, Azerbaijan, and Georgia: country studies. Federal Research Division, Library of Congress, Washington, D.C.

Delbono F, Reggiani C. 2013. Cooperative firms and the crisis: evidence from some Italian mixed oligopolies. Annals of Public and Cooperative Economics **84**:383-397.

Deng W, Hendrikse G. 2014. Cooperative social capital - towards a lifecycle perspective. Pages 1-6 in 2014 International Congress, European Association of Agricultural Economists, Ljubljana.

EBRD. 2018. EBRD and EU foster hazelnut production in Georgia. Available from https://www.ebrd.com/news/2018/ebrd-and-eu-foster-hazelnut-production-in-georgia.html (accessed April 2019).

ENPARD. 2017. About us. Available from http://enpard.ge/en/about-us/ (accessed November 2018).

ENPARD. 2018. What is ENPARD? Available from www.enpard.ge (accessed November 2018).

Enterprise Georgia. 2019. About US. Available from http://www.enterprisegeorgia.gov.ge/en/about (accessed March 2019).

EU (European Union). 2014. Official Journal of the European Union. Volume 57. Legislation 261. Pages 6-117 in International Agreements (2014/494/EU). Luxembourg.

EU MADB. 2019. European Union Market Access Database. Available from http://madb.europa.eu//madb/statistical_form.htm?product=080222&country=GE&years=[2014]&fromLink=undefined (accessed March 2019).

Europe for Georgia. 2015. Honey Production, Export, And Hindering Factors. Available from http://eugeorgia.info/en/article/208/honey-production-export-and-hindering-factors/ (accessed April 2019).

Esnard L, Lyne M, Old K. 2017. Factors affecting the value added by agricultural cooperatives in Saint Lucia: An institutional analysis. Journal of Co-operative Organization and Management **5**:73-79.

Factcheck. 2017. Reasons of decreasing export price for Georgian hazelnut (in Georgian). Available from https://factcheck.ge/ka/story/31089-qarthuli-thkhilis-phasis-mkvethri-vardnis-gamomtsvevi-mizezebi (accessed April 2019).

FAOSTAT. 2019. Food and Agriculture Organization of United Nations. Available from http://www.fao.org/faostat/en/#data/QC/visualize (accessed March 2019).

Figueiredo V, Franco M. 2018. Factors influencing cooperator satisfaction: A study applied to wine cooperatives in Portugal. Journal of Cleaner Production **191**:15-25.

Fischer E, Qaim M. 2012. Linking smallholders to markets: Determinants and impacts of farmer collective action in Kenya. World Development **40**:1255–1268.

Francesconi GN, Heernik N. 2011. Ethiopian Agricultural Cooperatives in an Era of Global Commodity Exchange: Does Organisational Form Matter? Journal of African Economies. DOI: 10.1093/jae/ejq03

GeoStat. 2017. Share of Agriculture in GDP. Available from www.geostat.ge (accessed November 2018).

GeoStat. 2018. National Statistics Office of Georgia. Available from http://geostat.ge/index.php?action=page&p_id=428&lang=eng (accessed December 2018).

GHC. 2016. Georgia Hazelnut Corporation. Available from http://georgianhazelnuts.ge/en/about-us/ (accessed April 2019).

Gimenes R, Tapia DV, Erlaine B, Gimenes F. 2016. Cooperative Educational Training, Participation and Satisfaction: A Case Study in Agricultural Cooperatives. International Journal of Emerging Research in Management &Technology **5**:42-54.

Government of Georgia. 2010. Tax code of Georgia. Pages 58-137 in Georgian Law, document number 3591. Georgia

Government of Georgia. 2015. Ordinance of Government of Georgia 347. Georgia.

Government of Georgia. 2016. Ordinance of Government of Georgia 185. Georgia.

Government of Georgia. 2017. Ordinance of Government of Georgia 34. Georgia.

Government of Georgia. 2018. Ordinance of Government of Georgia 365. Georgia.

Graham J, Amos B, Plumptre T. 2003. Principles for Good Governance in the 21st Century. Policy Brief **15**:1-9.

Hakelius K. 2018. Understanding the board of Swedish farmer cooperatives – Cases focusing on board composition and interaction patterns. Journal of Co-operative Organization and Management **6**:45-52.

Harris A, Stefanson B, Fulton M (1996). New generation cooperatives and cooperative theory. Journal of Cooperatives **11**:15-28.

HEPA. 2013. Hazelnut Processors and Exporters Association of Georgia. Available from http://hepa.ge/en/members/full-membership (accessed April 2019).

Herbel D, Crowley E, OURABAH HN, Lee M. 2012. FAO. Good practices in building innovative rural institutions to increase food security. Rome.

Herbel D, Rocchigiani M, Ferrier C. 2015. Journal of Co-operative Organization and Management **3**:24-31.

Hernández-Espallardo M, Arcas-Lario N, Tantius P. 2013. Farmer's satisfaction and intention to continue as members of agricultural marketing Co-operatives: neoclassical versus transaction costs considerations. European Review of Agricultural Economics **40**:239-260.

Hough L. 2011. Social Capital in Georgia. Caucasus Analytical Digest **31**:2-5.

Huang CC, Zazale S, Othman R, Aris NA, Arif MMS. 2015. Influence of Cooperative Members' Participation and Gender on Performance. Journal of Southeast Asian Research **2015**:1-9

Hunnicutt L. 2002. The Effect of Membership Characteristics on Cooperative Pricing Policies and Success. Economic Research Institute Study Papers **249**:1-26.

ICA (International Cooperative Alliance). 1937. Revision to Co-operative Principles. Available from https://web.archive.org/web/20091029163330/http://www.ica.coop/coop/principles-revisions.html (accessed April 2019).

ICA (International Cooperative Alliance). 2018. Exploring the Cooperative Economy – Report 2018. Available from https://www.ica.coop/sites/default/files/publication-files/wcm2018-printx50-227290600.pdf (accessed November 2018).

Ito J, Bao Z, Su Q. 2012. Distributional effects of agricultural cooperatives in China: Exclusion of smallholders and potential gains on participation. Food Policy **37**: 700–709.

ISET. 2017. EU-Supported Agricultural Cooperatives in Georgia. International School of Economics in Tbilisi, Georgia.

Kaganzi E, Ferris S, Barham F, Abenakyo A, Sanginga P, Njuki J. 2009. Sustaining linkages to high value markets through collective action in Uganda. Food Policy **24**:23-30.

Karantininis K, Zago A. 2001. Cooperatives and Membership Commitment: Endogenous Membership in Mixed Duopsonies. American Journal of Agricultural Economics **83**:1266-1272.

Kutateladze R, Kochlamazishvili L, Kandashvili S. 2013. Export potential of Georgian hazelnut. Pages 130-133 in PRADEC Academic Publishing Platforms, editor. Technology Transfer and Innovations, 2nd Annual Conference & Networking. Georgian Technical University, Tbilisi.

Liang Q, Huang Z, Lu H, Wang X. 2015. Social Capital, Member Participation, and Cooperative Performance: Evidence from China's Zhejiang. International Food and Agribusiness Management Review **18**:49-78.

Ma W, Abdulai A. 2017. The economic impacts of agricultural cooperatives on smallholder farmers in rural China. Agribusiness **33**:537–551.

Markelova H, Meinzen-Dick R, Hellin J, Dohrn S. 2009. Collective action for smallholder market access. Food Policy **34**:1-7.

Masuku TA, Masuku MB, Mutangira JPB. 2016. Performance of Multi-Purpose Cooperatives in The Shiselweni Region of Swaziland. International Journal of Sustainable Agricultural Research **3**:58-71.

Mazzarol T, Limnios E, Reboud S. 2013. Co-operatives as a strategic network of small firms: case studies from Australian and French co-operatives. Journal of Co-operative Organization and Management **1**:27-40**.**

McGovern P, et al. 2017. Early Neolithic wine of Georgia in the South Caucasus. PNAS **114**:10309–10318.

Mills C, Davies W. 2013. Blueprint for a Co-Operative Decade. University of Oxford. Available from https://ica.coop/sites/default/files/media_items/ICA%20Blueprint%20-%20Final%20version%20issued%207%20Feb%2013.pdf (accessed April 2019)

Ministry of Economy (Ministry of Economy and Sustainable Development of Georgia). 2014. Agreement – DCFTA. Available from http://www.dcfta.gov.ge/public/filemanager/agreement/trade/Full%20Text.pdf (Accessed November 2018).

MOA (Ministry of Agriculture). 2013. Georgian law on Agricultural Cooperatives. Georgia.

MOA (Ministry of Agriculture). 2015. Strategy for Agricultural Development in Georgia 2015-2020. Available from http://www.moa.gov.ge/Download/Files/227 (accessed November 2018).

MOA (Ministry of Agriculture). 2017. Rural Development Strategy 2017-2020. Available from http://www.moa.gov.ge/Download/Files/229 (accessed April 2019).

Movsisyan S. 2013. The Role of Cooperatives in the development of Agriculture in Armenia, Asian Countries & EU (Worldwide case studies). No Editors. Institute for Cultural Diplomacy - Europe Meets Russia, Berlin.

Nilsson J. 2001. Organisational principles for co-operative firms. Scandinavian Journal of Management **17**:329–356.

North DC. 1987. Institutions, Transaction Costs and Economic Growth. Economic Enquiry **25**:367-548.

North DC. 1990. Institutional Change and Economic Performance. DOI: 10.1017/CBO9780511808678.

OECD. 1993. Glossary of Industrial Organisation Economics and Competition Law. available from http://www.oecd.org/regreform/sectors/2376087.pdf (accessed April 2019).

Ollila P, Nilsson J. 1997. The Position of Agricultural Cooperatives in the Changing Food Industry of Europe. Pages 131-150 in Nilsson J, Dijk VG, editors. Strategies and Structures in the Agro-Food Industries. Van Gorcum, Assen.

Pinto CA. 2009. Agricultural Cooperatives and Farmers Organizations Role. Agricord Publishers, Stockholm. Available from https://www.un.org/esa/socdev/egms/docs/2009/cooperatives/Pinto.pdf (accessed March 2019).

Portes A. 1998. Social Capital: Its Origins and Applications in Modern Sociology. Annual Review of Sociology **24**:1-24.

Reardon T, Timmer P, Berdegue JA. 2005. Supermarket Expansion in Latin America and Asia: Implications for Food Marketing Systems. Pages 47-61 in Regmi A, Gehlhar M, editors. New Directions in Global Food Markets. Economic Research Service: US Department of Agriculture, Washington, D.C.

Royer A, Bijman J, Abebe GK. 2017. Cooperatives, partnerships and the challenges of quality upgrading: A case study from Ethiopia. Journal of Co-operative Organization and Management **5**:48-55.

Sexton JR, Iskow J. 1988. Factors Critical to the Success or Failure of Emerging Agricultural Cooperatives. Division of Agriculture and Natural Resources, University of California, Davis.

Svendsen GLH, Svendsen GT. 2005. The creation and destruction of social capital. Edward Elgar Publishing Limited, Cheltenham.

Teres V, Bondarchuk V, Korinets R, Sedik D, Lerman Z. 2016. Comparative analysis of cooperative legislation in the Post-Soviet countries. FAO. Available from http://www.fao.org/europe/resources/compendium/en/ (accessed April 2019).

Trechter DD, King RP, Cobia DW, Hartell J. 1997. Case Studies of Executive Compensation in Agricultural Cooperatives. Applied Economic Perspectives and Policy **19**:492-503.

Tremblay P. 2000. An evolutionary interpretation of the role of collaborative partnership in sustainable tourism. Pages 314-332 in Bramwell B, Lane B, editors. Tourism collaboration and partnerships. Politics practices and sustainability. Chanel View Publications, Canada.

Valentinov V, Iliopoulos C. 2013. Economic Theories of Nonprofits and Agricultural Cooperatives Compared: New Perspectives for Nonprofit Scholars **42**:109-126.

Vandeplas A, Minten B, Swinnen J. 2013. Multinationals vs. Cooperatives: The Income and Efficiency Effects of Supply Chain Governance in India. Journal of Agricultural Economics **64**:217-244.

Verhees F, Sergaki P, Van Dijk G. 2015. Building up active membership in cooperatives. New Medit **1**:42-52.

Wadsworth J. 2001. Keep the co-op candle burning. Rural Cooperatives **68**:19-20.

Wanyama F, Develtere P, Pollet I. 2008. Encountering the Evidence: Cooperatives and Poverty Reduction in Africa. SSRN (1330387) DOI: 10.2139/ssrn.1330387.

Westermann O, Ashby J, Pretty J. 2005. Gender and Social Capital: The Importance of Gender Differences for the Maturity and Effectiveness of Natural Resource Management Groups. World Development **33**:1783–1799.

Wollni M, Fischer E. 2015. Member deliveries in collective marketing relationships: Evidence from coffee cooperatives in Costa Rica. European Review of Agricultural Economics **42**:287–314.

Zheng S, Wang Z, Awokuse TO. 2012. Determinants of producers' participation in agricultural cooperatives: Evidence from Northern China. Applied Economic Perspectives and Policy **34**:167–186.

11. Appendices

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11.1. Appendix 1: Questionnaire for Members (Author 2018)

RESEARCH TOPIC: ANALYSIS OF ECONOMIC AND SOCIAL PERFORMANCE OF NEWLY CREATED FARMERS GROUP IN THE EU EASTERN PARTNERSHIP COUNTRY; THE CASE OF GEORGIA

These questionnaires have been designed to execute a research purposely for academic work. The principal objective is to analyse the economic and social performance of newly created farmers' groups and their determining factors in participation of collective action with specific focus on women and youth. All information provided will be used solely and exclusively for academic purpose and all respondents will remain anonymous to the public domain. Information provided would be used to make sound empirical analysis and suggest policy recommendations that would help improve market access and farmer's socio-economic well-being and standard of living in the region. The entire interview will take nearly one hour of your time and you are kindly requested to provide honest and genuine answers within your possible best.

Interview date……../……/20…….

A. DEMOGRAPHIC AND SOCIO-ECONOMIC DATA

Filled by enumerator:

1. Name of the cooperative …….
2. Gender [1] Male [0] Female
   Main product (honey, wine, hazelnuts) Main product (honey, wine, hazelnuts)
   Filled with respondents:
3. Age of respondent in years …….
4. Educational status [0] No Formal Education, [6] Primary Education, [12] Secondary/Technical Education, [15] Tertiary Education
5. What is your position within the coop?
   [1] Member of the coop [2] Employee of the coop [3] Director, Member of the board [4] Chairman of the board [5] Member paid by the cooperative
6. How many years are you a member of the cooperative?……

7. How did you acquire your farm land? [1] Own/Family [2] Rent [3] Squatter [4] Purchase [5] Privatisation after kolkhozes
8. Do you have your own processing equipment for your produce? [1] Yes [0] No
9. What is the distance from your farm to the nearest bigger regional market centre? [km] …….

B. FACTORS THAT MAY INFLUENCE FARMERS DECISION TO JOIN COOPERATIVES

10. Do you agree that you actively work with other farmers in the community (Strongly agree, partly agree, neither agree nor disagree, partly disagree, strongly disagree)?
11. Do you agree that there is a general high trust between the farmers? (Strongly agree, Partly agree, Neither agree nor disagree, Partly disagree, Strongly disagree)
12. Do you agree that you knew well personally most members of the cooperative before establishing cooperative? (Strongly agree, Partly agree, Neither agree nor disagree, Partly disagree, Strongly disagree)

C. Economic benefits of cooperative members

Please rate the following questions according to your level of agreement as economic benefit you receive from being a cooperative member

Do you agree with the following statements;	Strongly agree	Partly agree	Neither agree nor disagree	Partly disagree	Strongly disagree
13. Your income has increased in the last 3 years.					
14. You are able to access higher quality inputs at a lower price over last 3 years.					
15. You receive higher price for your main product over last 3 years.					
16. You don't have to dedicate so much time to marketing and selling over last 3 years.					
17. You have reduction in the costs of production in the last 3 years.					

18. You have better access to credit and saving services over last 3 years.					
19. Your bargaining power on the market has improved over last 3 years.					

Non-Economic Benefit

Do you agree with the following statements;	Strongly agree	Partly agree	Neither agree nor disagree	Partly disagree	Strongly disagree
20. Service from input suppliers has improved over the last 3 years					
21. Access to relevant market information have improved over the last 3 years					
22. Service from extension agents have improve over the last 3 years					
23. Access to information about good agricultural practices has improved over the last 3 years					
24. Opportunity for further training has increased over the last 3 years					
25. You have better chance to mutually share experience with other farmers than 3 years ago.					
26. Opportunity to participate in decision about the community development has increased in the last 3 years (infrastructure building, building a playground, repairing of library.).					

27. I feel now more autonomous and independent than 3 years ago.					

D. Social Capital

Do you agree with the following statements?	Strongly agree	Partly agree	Neither agree nor disagree	Partly disagree	Strongly disagree
28. Members candidly and willingly share their views in the cooperative					
29. Members share their limitations and concerns with each other.					
30. Members share their needs with each other.					
31. Most people who are members of the coop can be trusted.					

11.2. Appendix 2. Questionnaire (ISET 2017)

Annual Cooperative Survey Questionnaire			
Name of the ENPARD Consortium[1]			
No. of Questionnaire			
Name/Code of the Interviewer			
Date of the Interview	**Day**	**Month**	**Year**
Reporting Year[2]	**From – MM/YY** ----/----	**To -MM/YY** / ----/----	

Please, apply the codes for 'Refuse to answer' (-98), 'Do not know' (-99) and 'Not applicable' (-77) consistently throughout the questionnaire. Thanks!

[1] CARE, Mercy Corps, OXFAM or PIN

[2] Please consider that all questions must be asked about the reporting year. Sometimes last year is used instead of reporting year.

Q 1. Name of the Cooperative:

_____

Q 2. The Cooperative is:

1. Primary but is also the member of secondary cooperative
2. Primary (is not the member of the secondary cooperative)
3. Secondary level cooperative

Q 3. Location of the Cooperative:

1. Community / Village_____
2. Municipality _____
3. Region _____

Q 6. Sectors covered by the Farmer Group/Cooperative during accounting year:

Sectors	**Value[3]** (GEL)	**Volume of Production** (Please indicate the unit E.g. kg, liters etc.)
Production		
1. Viticulture		- Grape[4] (kg) - Wine[5] (liter) - Vodka (liter) - Etc.
2. Apiculture		- Honey (kg) - Wax (kg) - Propolis (kg) - Bee milk (gr) - Etc.
3. Livestock – Cattle Dairy		- Milk[6] (liter) - Cheese (kg) - Matsoni (kg) - Nadughi (kg) - Etc.

[3] Total value of all products (sum of all products' values)
[4] Only sold grapes (not processed into wine or vodka)
[5] If cooperative processed all grapes, (and maybe bought some from others as well), we must write only the final products (not grapes in this case)
[6] Only sold milk (not processed into cheese or other milk products)

4. Livestock – Cattle Meat		Quantity
5. Livestock – Sheep / Goats		Quantity
6. Livestock – Pigs		Quantity
7. Livestock – Poultry		- Chicken (quantity) - Eggs (quantity) - Etc.
8. Fruit		- Apple (kg) - Peach (kg) - Pear (kg) - Etc.
9. Berry		- Strawberry (kg) - Raspberry (kg) - Etc.
10. Potato		- Potato (kg) - Seed potato (kg) Etc.
11. Vegetables – Tomato, Cucumber, Peppers etc.		- Tomato (kg) - Cucumber (kg) - Peppers (kg) - Etc.
12. Greens		All greens together (kg)
13. Hazelnuts		- In-shell (kg) - Shelled (თხილის გული) (kg) - Shell (ნაჭუჭი) (kg) - Etc.
14. Cereals (corn, wheat, rice, soya, beans, etc.)		- Corn/maize (kg) - Wheat (kg) - Beans (kg) - Etc.
15. Fishery		- Fish (kg) - Fry (kg) - Roe (kg) - Etc.
16. Nursery		- Quantity 1 - Quantity 2 - Quantity 3
17. Non-timber products (NTFP)		- Quantity 1 - Quantity 2 - Quantity 3
18. Other (specify)		Please indicate the unit
19. Other (specify)		Please indicate the unit
Service		

Service	Value[7] (GEL)	Quantity (tone, ha, unit)
1. Provided Machinery Services		Cultivated hectares of land (ha)
2. Collection / Storage		Collected or stored amount of produce (tons)
3. Processing / Sorting / Packing / Packaging / Transportation / Distribution / Marketing		Amount of processed produce (tons)
4. Professional Service		Quantity of provided services
5. Other (specify)_____		Please indicate the unit

Q 7. What is the share (%) of monetary value of total inputs (raw materials) from members and from non-members in the reporting year?

From members	From non-members
%	%

Q 13. Please, provide information about the current (or original) members of your Cooperative

A. Gender		B. Age		C. Education		D. Ethnicity	
1. Female		1.18-25		1. Primary		1. Georgian	
2. Male		2. 26-39		2. Secondary		2. Azeri	
3. Total		3. 40-59		3. Vocational		3. Armenian	
		4. 60+		4. High		Other _____	

[7] Direct and indirect benefit from service, that you got from this service (e.g: from tractor usage or renting) during the accounting year.

Q 16. What is the main source of income of Cooperative members? Please indicate the number of the members for whom the main income is…

Source of Income	# Male	# Female
1. Agriculture		
2. Employment in Cooperative (Paid Job)		
3. Employment in the Private sector		
4. Employment in the Public sector		
5. Private business		
6. Seasonal work		
7. Old aged pension		
8. Social allowances		
9. Remittances from abroad		
10. Other (specify)		

Q 17. The Cooperative members are from:

1. The same village
2. The same community
3. Mainly from one municipality but from various communities / villages
4. Mainly from various municipalities
5. From several regions

Q 18. How many families (nuclear) is the Cooperative composed of?

Q 19. What % of shares in the Cooperative do the members possess?

A. Indicate the value of one share in GEL_____		Male	Female	Associated member
B. Number of	1. Less than 5% (including 5) of nominal share			

people with:	2. 5- 10% (including 10) of nominal shares			
	3. 10-20% (including 20) of nominal shares			
	4. 20-40 % (including 40) of nominal shares			
	5. Over 40% of nominal shares			

Q 23. How often do you (plan to) elect the members of the board?

1. Once a year
2. Once every two years
3. Once every three years
4. Once every four years
5. Once every five and more years

Q 24. How many members are on the board?

A. Male	B. Female

Q 27. Can you please specify the frequency of the Assembly and Management Board meetings in the reporting (2015) year?

Q 28. Provide information on the number of the participants who regularly attend the Assembly Meetings?

Q41a. What percent of your net profit from last year did you reinvest (or going to reinvest) in your cooperative or distributed among members?

Q45. In which geographical area does the Cooperative sell its products / services? Please, indicate the shares (%) of the market you cover by location.

11.3. Appendix 2: Photos of data collection process