

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Tropical AgriSciences



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AgriSciences**

**Are Cooperatives an Effective Organizational
Structure for Encouraging and Supporting Women's
Empowerment?
Evidence from Agricultural Cooperatives in the
Country of Georgia**

MASTER'S THESIS

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Declaration

I hereby declare that I have independently written the following thesis:

Are Cooperatives an Effective Organizational Structure for Encouraging and Supporting Women’s Empowerment? Evidence from Agricultural Cooperatives in the Country of Georgia

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 on 19 April 2023

.....

Bc. Caroline Christopher Beach

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¹ Beach, C., Mazancova, J. (2021): Measuring Women's Empowerment in Rural Context: Case Study on Women in Agri-cooperatives in Georgia. Czech Evaluation Society 2021: Approach to People and Data. Prague 6 June 2021

² Beach, C., Mazancova, J. (2021): Measuring Women's Empowerment in Rural Context: Case Study on Women in Agri-cooperatives in Georgia. Euro League for Life Sciences (ELLS) Scientific Student Conference 2021: Green (R)evolution: From Molecules to Ecosystems. Warsaw 19-20 November 2021

³ Mazancova J., Beach C., Beránková A. (2022): Approaches to Measurement of Women's Empowerment in Agri-cooperatives: Case Studies from Georgia and Zambia. ICA CCR European Research Conference – Athens 2022: Rethinking co-operatives: From local to global and from the past to the future. Athens 13th–15th July 2022

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Abstract

Agricultural cooperatives are considered suitable tools for the mobilization of rural communities, particularly female farmers, in improving their livelihoods towards Sustainable Development Goals (SDGs). This paper explores cooperatives and their organizational structure as an effective tool for encouraging and supporting women's empowerment in a Georgian context and emphasizes the contextual methodological approach of women's empowerment (WE) measurements applying an aggregated three-dimensional women's empowerment index. The case study examines 65 female respondents: 29 from newly established agricultural cooperatives and 36 from the comparison group were interviewed with a structured questionnaire in Georgia in 2018. The results show micro- and meso- level changes to the environment in which women operate and express their economic and personal empowerment. Via a binary logit regression model, our study revealed women with a secondary education, in bigger families and involved in the farming of the main product for longer are less likely to enter the cooperatives, while women on distant farms are more likely to become members. Female members still face challenges of low profits, lack of access to bigger markets and meeting quality requirements. The young age of the cooperatives (3 years) is the biggest hindrance to uncovering more details, however the study contributes to the discussion over the empowerment role of cooperatives. With long-term research in the region, structural changes may become more evident.

Key words: ENPARD, Post-Soviet Agriculture, Small-Scale Farming, Domestic Labor, Women's Equality

Contents

1. Introduction	1
2. Literature Review	3
2.1 Definitions of Women’s Empowerment	3
2.2 Cooperatives as Tools for Rural Women’s Empowerment	4
2.3 Gender Equality in Georgia.....	7
2.4 Agricultural Cooperatives and Georgia: A Complicated Past.....	9
2.5 Global Policy Framework for Women’s Empowerment Through Cooperatives	11
2.6 National Policy Framework for Women’s Empowerment in Georgia	13
2.7 Gender Equality as an International Agricultural Trade Strategy	14
3. Aims of the Thesis	18
4. Methods and Materials	19
4.1 Sampling and Study Site.....	19
4.2 Conceptual Framework.....	22
4.2.1 Aggregated Women’s Empowerment Index.....	22
4.2.2 Rates of Active Participation	23
4.2.3 Determinants of Female Cooperative Membership	25
4.3 Data Collection	26
4.4 Data Analysis.....	28
4.4.1 Aggregated Women’s Empowerment Index.....	28
4.4.2 Rates of Active Participation	30
4.4.3 Determinants of Female Cooperative Membership	31
5. Results	32
5.1 Aggregated Women’s Empowerment Index	35
5.2 Rates of Active Participation	37
5.3 Determinants of Female Cooperative Membership.....	38
5.4 Perspectives of Female Cooperative Members on Cooperative Joining and Membership	41
5.5 Perspectives of Female Cooperative Members on the Roles of Family and Gender	42
5.6 Perspectives of Female Non-Members on Cooperatives.....	44
6. Discussion	44

6.1 Aggregated Women’s Empowerment Index	44
6.2 Rates of Active Participation.....	45
6.3 Determinants of Female Cooperative Membership.....	46
6.4 Perspectives of Female Cooperative Members on Cooperative Joining and Membership	47
6.5 Perspectives of Female Cooperative Members on the Roles of Family and Gender	48
6.6 Perspectives of Female Non-Members on Cooperatives.....	49
6.7 Policy Recommendations	50
6.8 Recommendations for Further Research	51
6.9 Study Limitations	53
7. Conclusion	53
8. References	56

List of Tables

Table 1. Respondents Represented by Main Product (N = 210)

Table 2. Operationalization of Aggregated Women's Empowerment Index

Table 3. Demographic Characteristics of the Respondents (N=210)

Table 4. Comparison of WEI Indicators for Female Members and Non-Members (N=65)

Table 5. Determinants of Women's Membership (Binary Logistic Model) (N=63, note 2 questionnaires were excluded from the analysis for incomplete answers)

Table 6. Perception of Female Cooperative Members on Joining the Cooperative and its Performance (N = 29)

Table 7. Distribution of Perceptions on the Role of Family and Gender in the Cooperatives as Perceived by Female Cooperative Members (N=29)

Table 8. Supporting and Hindering Reasons of Female Non-Members for Joining a Cooperative (N = 36)

List of Figures

Figure 1. Locations and Density of Surveyed ENPARD Cooperatives in Georgia (N=42)

Figure 2. Main Agricultural Product(s) in Selected Areas

Figure 3. Three-Dimensional Model for Tracking the Direction of Changes for Empowerment (inspired by Lombardini et al. 2017)

Figure 4. Sex-Disaggregated Levels of Cooperative Members' Participation (N = 105)

List of Abbreviations

Agri- agricultural

CIS- Commonwealth of Independent States

COMSIP- Community Saving and Investment Promotion Cooperative Union

Co-op- Cooperative

DCFTA- Deep and Comprehensive Free Trade Area

*ENPARD- European Neighbourhood Programme for Agriculture and Rural
Development in Georgia*

EU- European Union

GHGA- Georgian Hazelnut Growers Association

G-HIP- Georgian Hazelnut Improvement Project

HEPA- Hazelnut Exporters and Processors Association

ILO- International Labor Organization

MDG- Millennium Development Goals

MUSCCO- Malawian Union of Savings and Credit Cooperatives

NGO- Non-Government Organization

P'KWI- Popular Knowledge Women's Initiative

SDG- Sustainable Development Goal

USAID- United States Agency for International Development

WE- Women's Empowerment

WEI- Women's Empowerment Index

1. Introduction

In many developing countries, improving women's access to the locus of control for their lives has taken center stage for improving standards of living for entire communities. Studies have shown repeatedly that improving women's access to education, healthcare, and economic opportunities has a positive impact on poverty reduction and economic growth (Norton 2004; Vicari & Borda-Rodriguez 2014). Addressing inequalities and supporting women's rights are key drivers of sustainable rural development.

The topic of rural women's empowerment through participation in agricultural cooperatives has been studied intensely in recent years, and NGOs and governments alike have created committees, set goals, and had calls to action to address this issue on national and international scales (UN Women 2021a; United Nations Economic Commission for Europe 2014; USAID 2010; United Nations Sustainable Development 2021). Although the effectiveness of these policy frameworks has been scrutinized, they provide a general research basis which organizations and legislative bodies can use to plan programs to aid in women's empowerment (USAID 2010).

The main themes present in the field of female empowerment through agri co-ops are the presence of patriarchal societal structures, women's diminished capacity to participate in co-op activities, and the benefits for both female members and the society at large (Majurin 2012; Dohmwirth & Hanisch 2019; Sikod 2007). The desire to focus on women's empowerment and gender equality stems from data that shows women have less access to the tools for empowerment than men in the countries mentioned in this study. The financial, social, and personal benefits of co-op membership are well documented and observed globally, however, research is lacking for women. The research gap is even wider for women in the Caucasus region, with Jenderedjian & Bellows (2021) highlighting that even within the field of post-Soviet agricultural policy, the focus is heavily on larger countries with an ethnic Slavic majority. For this reason, most of the literature review features examples and research from Sub-Saharan Africa and Asia. Uganda is of particular interest to many researchers, such

as Meier zu Selhausen (2015) and Lecoutere (2017). In India, research done by Dohmwirth and Hanisch (2019) and Jejeebhoy (2000) shed light on the topic of women's empowerment. Jenderedjian & Bellows (2021) conducted their research in Armenia and Georgia.

The rural communities in this study may speak different languages, have different farming systems, and practice different religions, but one aspect of their societies ties these groups together: presence of patriarchal structures within the culture. The patriarchy's widespread impact, both culturally and legally, hinders women's abilities to join co-ops and achieve tools for empowerment (Nadaraia 2013; Norton 2004; Majurin 2012; Sikod 2007; Jenderedjian & Bellows 2021). Similar trends between gender relations and access to resources are found in Georgia, but the lack of current literature in the Caucasus region warrants further study (Asian Development Bank 2018; UN Women 2021a; Jenderedjian & Bellows 2021). Georgia provides researchers with an opportunity to test the effectiveness of co-ops as a source of women's empowerment due to its long heritage in agriculture, patriarchal structure, recent political developments, and transitioning economy (Asian Development Bank 2018; UN Women 2021a; Jenderedjian & Bellows 2021).

Georgia's importance for multidisciplinary research cannot be overstated. It has made significant strides in implementing social development reforms and modernizing its economy since the collapse of the Soviet Union. These developments make Georgia attractive for foreign investment and researchers alike. For economists and political scientists, interest lies in its strategic location on the Black Sea between Europe and Asia as a hub for trade. Its rich agrobiodiversity, large differences in elevation, and multiple climates make it an area with huge potential for agriculturists. In sociology, Georgia is ripe with societal change as a post-Soviet transitioning economy, with western leanings, and an expressed desire to join the European Union. This thesis attempts to blend these disciplines to give readers a comprehensive view of the situation for rural Georgian women as it relates to agri co-op membership and the broader movement towards putting the tools for empowerment under women's control.

2. Literature Review

2.1 Definitions of Women's Empowerment

Empowerment takes on many definitions in the current literature; some definitions highlight the dynamic process of reaching various stages of empowerment, instead of treating it as a single moment of moving from powerless to powerful (Archana 2016). Others focus specifically on female or poor empowerment; for example, Narayan (2002) defined empowerment as “the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives.” Similarly, Jejeebhoy (2000) defines empowerment and autonomy as the ability to make decisions in key areas of one's life, specifically marriage, childcare, economics, resources, and movement.

Measuring empowerment remains difficult, given its intangible qualities, which appear alongside concrete, measurable market and labor outcomes, but Laszlo et al. (2017) recommend measuring empowerment based on theoretical constructs over market outcomes. Their argument is participation in the labor market is not equivalent to empowerment, because employed women in many cases still lack the agency to choose their field of work, the uses for household income, and are still bearing the brunt of unpaid family management and childcare labor (Laszlo et al. 2017). The Three-Dimensional Model for Women's Empowerment by Huis et al. (2017) examines the micro-level (self), meso-level (with peers and relatives), and the macro-level (broader community) to measure empowerment; their research highlights the significant impact microfinancing had on women's self-esteem, confidence, and perceptions of control (the micro-level), but also notes the smaller than expected impact of microfinancing on women's empowerment in the meso- and macro-levels.

2.2 Cooperatives as Tools for Rural Women's Empowerment

Cooperatives are a form of collective actions in which many members act together as a business to purchase wholesale inputs, pool resources for expensive investments (e.g., tractors, processing equipment) market their products, and sell in bulk; in agriculture, co-ops provide extension services and education to make farming more profitable and give farmers the chance to build their business networks (International Labor Organization 1984). Co-ops have been studied as a tool for rural women's empowerment through various avenues such as improvement in confidence levels, status in society, educational opportunities, and of course, finances. Finance takes a vital role in many studies because of its concrete nature, importance to survival, and the ease of data collection and analysis. But the impact of economic improvements for women often extends beyond the actual monetary gains. Money becomes a tool for accessing other means of empowerment, as seen in many cases across the cooperative movement (Vicari & Borda-Rodriguez 2014; Ferguson & Kepe 2011; Lecoutere 2017).

In Malawi, female members of credit unions and financial support co-ops, such as the Community Saving and Investment Promotion (COMSIP) Cooperative Union and the Malawian Union of Savings and Credit Cooperatives (MUSCCO) found that as the women's abilities to understand financial literacy and provide an income improved so did the respect and approval of their husbands (Vicari & Borda-Rodriguez 2014). It also improved their household-level decision-making power and the standard of living for household members, showing an impact on their immediate families and wider communities, as well as their personal, intangible factors of empowerment, like respect, agency, and social status (Vicari & Borda-Rodriguez 2014). Women from the Mayakabi Area Cooperative Enterprise in Uganda answered that after becoming members, they became the main decision makers in their household regarding the growth and sale of crops and the use of agricultural income; they also used trainings to improve their skills in the disciplines of household finance, like saving and investing (Ferguson & Kepe 2011). In another Ugandan co-op, members of the Popular Knowledge Women's Initiative Farmer to Farmer Co-operative Society (P'KWI), founded in 1993 to meet the needs of impoverished women, revealed that co-op "membership had a

significant positive effect on women's power and ability to influence decisions at all levels: their households, groups and the wider community," and with particular interest, improved credibility with loans (Lecoutere 2017).

Ferguson and Kepe (2011) further sought to record the impact of female membership on internal confidence and the external impact of women on their environment; their focus on the intangible was due to the perceived uneven emphasis in the academic field on the economic impact of women in cooperatives, and less research into the more abstract categories like confidence and placement in society. Their research found that beyond the obvious economic benefits, members achieved higher social status as they used the co-op to develop their skills in health, hygiene, business negotiations, and leadership, (Ferguson & Kepe 2011). Additionally, 100% of the women interviewed felt more empowered and the respondents deemed it one of the main benefits of membership (Ferguson & Kepe 2011). Meier zu Selhausen (2015) also used a model for their research on Ugandan coffee bean producers that examined women's access to resources in combination with their level of agency as determinants for their ability to join and the intensity of their subsequent participation, beyond financial observations. A general theme across research into African women's collective agricultural action is that access to and control over resources and personal agency are difficult to obtain, yet paramount to reaping full benefits of co-op membership (Meier zu Selhausen 2015).

The home front remains as one of the hardest arenas for women to achieve equality, and while membership in a co-op is believed to be the most promising strategy for equipping rural women to overcome their adversities and vulnerabilities in the market, Meier zu Selhausen (2015) also shed light on the inter-household politics between spouses which hinders women's full agency and access to resources. Similarly, Lecoutere (2017) found that although members of P'KWI, the female-only co-op in Uganda, were contributing more to household income through work outside of the home, membership had an insignificant impact on successfully transferring some of the women's household duties to the male household members. When surveyed, female and male participants agreed that women worked more hours inside the home, but it did not change divisions of labor in farming activities, in which,

female and male participants agreed they worked an equal number of hours (Lecoutere 2017). “Time poverty” is a common theme across countries with a patriarchal structure (Jenderedjian & Bellows 2021). Co-ops are helping women achieve better economic success and means for gaining the locus of control, but these studies reveal that membership alone appears to be insufficient for female empowerment under traditional gender roles on the division of unpaid household labor.

While “time poverty” may be assumed to be a barrier for female entry into co-ops, in a study of Armenian NGOs, leaders said they collaborated with women more than men before it was a policy guideline because they found women to be more productive in sustainable agriculture (Jenderedjian & Bellows 2021). One NGO leader said, “In the beginning we did not have particular stress on women, but then without even requirements, more women were participating. Then afterward with donors' requirements to have gender projects, it just happened naturally” (Jenderedjian & Bellows 2021). One might expect that a female-only cooperative would allow women easier access to the tools for empowerment, but the data shows that sex-segregated cooperatives may play a smaller role than previously thought, at least under current patriarchal conditions inside the home. Dohmwirth and Hanisch (2019) explored the factors of homogeneity (based on sex, religion, and caste) on female co-op participation and subsequent empowerment. Their data set of ten small-scale dairy co-ops in India found members of female-only co-ops still faced challenges attending meetings and actively participating. The study concluded that mixed-sex co-ops are not the main hinderance to female empowerment, but that the root is the external influence of the patriarchy, specifically time constraints on women due to added unpaid domestic labor and the cultural expectation that women do not belong in politics (Dohmwirth & Hanisch 2019).

These examples add to the wealth of research about the benefits of co-op membership for rural women; they show that while economic benefits are of course important, the impact of better finances for women reaches beyond economic security and success alone (Vicari & Borda-Rodriguez 2014; Ferguson & Kepe 2011). Co-op membership alone seems to clearly not be an effective strategy, and it must be coupled with active participation of the co-ops to contribute to structural social changes supported by global policy frameworks, nation-wide

plans, and local actions towards gender equality in all arenas of society, business, and especially the home (Dohmwirth & Hanisch 2019; Jenderedjian & Bellows 2021; Lecoutere 2017).

2.3 Gender Equality in Georgia

Broad environmental changes are only visible over a prolonged period, and Georgian women are still at a disadvantage to accessing the tools for empowerment due to strict gender roles and only relatively recent changes in government legislation (Asian Development Bank 2018; UN Women 2021b; Jenderedjian & Bellows 2021). Women only constitute 11% of the Georgian government, which recognizes gender-based violence as an area of public concern (UN Women 2021b). The relationship between perceived levels of equality and reality is often flawed. In Georgia, gender roles are strongly held up by the society, but simultaneously, an assumption exists that Georgia's society and legal structure do not discriminate against women (Nadaraia 2013). Jenderedjian & Bellows (2021) found Georgians have a positive perception of traditional roles, but simultaneously found men often failed to uphold their end of the arrangement and did not contribute more evenly to household labor even when their wives were willing and able to find extra income streams outside the home. The study of local NGOs focused on male and female responses to statements on using gender equality as a means for poverty reduction and found that rural women upheld some patriarchal values regarding men being the protector and provider for the family (Jenderedjian & Bellows 2021). The respondents emphasized the high value of women's traditional roles in public health, as defenders of the local environment, caregivers, and supplementing their husband's main income. But women faced futile situations when they began to work outside the home to supplement or replace their husbands' lost incomes due to the seasonal nature of many jobs or changes in visa requirements to travel abroad to Russia for work. The results for women were usually an increase in paid labor outside the home accompanied by the same amount of housework as before, with no added support from the husband (Jenderedjian & Bellows 2021). This trend is consistent with the findings in other countries regarding unequal

household labor (Dohmwirth & Hanisch 2019; Lecoutere 2017). It should be noted the gender wage gap in Georgia is 35% and female entrepreneurship remains low (UN Women 2021b).

Legislation may technically grant certain rights to women, but laws have negligible impact without thorough oversight, enforcement, and a cultural shift (Majurin 2012). A woman's legal right to own and inherit land clashes with the continued preference to leave land to sons, especially among ethnic minorities (Asian Development Bank 2018). Moreover, according to the 2014 agricultural census, men operated 70% of Georgia's agricultural holdings (Asian Development Bank 2018). It is typical for women to work on and invest in land they do not own, which increases their dependence on the resource owner (Majurin 2012; Sikod 2007; Nair & Moolakkattu 2015). In terms of cultural impacts on gender equality, a study by Sumbadze (2008) found that in the theoretical event that a family could not afford to send both their "equally gifted" children to higher education, 70% of surveyed parents (both husband and wife) preferred to send their son over their daughter. Although one should note that it is unclear whether this high percentage is due to the parents' personal preferences for an educated son over a daughter, or if they know in the current conditions an educated son will be able to take their family further economically and socially.

Female-headed rural households and internally displaced women are at especially high risks of violence and poverty (UN Women 2021b). In 2006, Russia put an embargo on Georgian wine and added new visa requirements for Georgians to travel to Russia; this directly impacted rural household stability, as there is a heavy reliance on remittances from Georgian men travelling abroad to Russia for seasonal work (Parsons 2006; The BBC 2006; Jenderedjian & Bellows 2021). The 2008 Russo-Georgian war over control of South Ossetia and Abkhazia added to the number of internally displaced persons and general instability, especially in rural communities (Jenderedjian & Bellows 2021). These events have pushed Georgian men out of their usual seasonal work in Russia and pushed women into dangerous jobs in Turkey harvesting nuts and doing domestic work, due to a preference for women in these roles abroad (Jenderedjian & Bellows 2021). This underlines the importance of domestic agri co-ops to bring financial benefits to their members, however co-ops have not always been a sign of wealth in Georgia.

2.4 Agricultural Cooperatives and Georgia: A Complicated Past

It requires a historical lens into regional economics and politics for modern agricultural and social researchers to understand Georgia's complex relationship with agri co-ops, and its neighbor Russia. Georgia has a long history of unique agricultural products, but the last century of agricultural redistribution and reclamation has set back the cause for agri co-ops in the region (Sedik & Lerman 2014).

Economic and political institutions have “strong synergy,” and economic systems are often orchestrated by the political elites, especially in extractive institutions; according to Acemoglu and Robinson (2013) extractive economic institutions, “are designed to extract incomes and wealth from one subset of society to benefit a different society.” Under the Soviet Union, central planning committees made great technological, industrial, and military strides due to extractive economic policies. Resources were forced out of the agricultural sectors by fiat and used to promote other industries. These “vague and utopic” plans for agriculture were materialized through the *kolkhozy* framework (Davies & Wheatcroft 2004). In the absence of an effective tax system, Joseph Stalin, perhaps the most famous Georgian, used the collectivized farms to extract wealth for his ambitious plans in other industries (Acemoglu & Robinson 2013). Although extractive institutions experience bursts of productivity, their growth is fragile, prone to infighting, and not sustainable in the long term. For the Soviet Union, the initial growth in select industries during the 1930s-1970s was followed by meltdowns in the 1980s, and complete dissolution by 1991 (Acemoglu & Robinson 2013).

The link between stable and protected property rights and productivity is crucial to understanding profit motives, especially in industries with high asset specificity such as agriculture (Acemoglu & Robinson 2013). The property rights theory asks which properties should be considered private or public. A farmer's ownership of the land and their profits from produce incentivizes long-term investment in the health of the land, water resources and the local environment, but the *kolkhozy* stripped rural Georgians of their property rights and

spiraled the industry into a tragedy-of-the-commons situation in which production fell steeply and never fully recovered (Davies & Wheatcroft 2004).

Farming's annual cyclical model and the necessity of years-long planning for agroforestry makes incentives through hourly wages difficult to centralize; unlike factories, with their clock-in-clock-out pace of work year-round, agricultural wages were difficult to quantify and stabilize throughout the growing cycles and led to unsatisfied peasants and difficulty for the *kolkhozy* leadership to make long-term investment plans (Davies & Wheatcroft 2004). Being a leader in the *kolkhozy* was a thankless and nearly impossible task, with a high turnover as many leaders were dismissed and targeted by officials (Davies & Wheatcroft 2004). Since 1991, Georgia has gone through privatization efforts to return collectivized farmland back to individual owners (Sedik & Lerman 2014). Much of Georgia's agricultural land is inherited and divided among family members, and while land fragmentation is often considered a hindrance to agricultural development, researchers are quick to emphasize that small-scale farming does not necessitate low productivity (Sail, Iqbal & Sheikh 2012).

To rebrand cooperatives as a positive force for small-scale farmers and emphasize the democratic processes under which they operate, compared to the centrally planned *Kolkhozy*, the EU funded the European Neighbourhood Programme for Agriculture and Rural Development in Georgia (Kochlamazashvili et al. 2017). ENPARD Georgia is a ten-year empowerment program with the aim of reducing rural poverty and one of their main objectives is improving cooperation between farmers; the project began in 2013 with a budget of €179.5 million (Kochlamazashvili et al. 2017). During the four-year research timeline (2014-2017), 281 ENPARD-supported cooperatives were surveyed, and they found female membership hovered around 30%, and about 20% of those women were in management positions (Kochlamazashvili et al. 2017).

Agri co-ops are one tool small-scale farmers use to collectivize their bargaining power and gain economies of scale, but memories of the *Kolkhozy* are still fresh in the minds of many Georgians (Sedik & Lerman 2014). Research is revealing that improving female engagement with agri co-ops is imperative to raising the entire community's standard of livings, and

therefore it has become a cornerstone in many international development strategies (Vicari & Borda-Rodriguez 2014; Jenderedjian & Bellows 2021).

2.5 Global Policy Framework for Women’s Empowerment Through Cooperatives

Official gender equality concerns on a global scale began to develop around 1995 with the Beijing Platform for Action. It had twelve areas of concern regarding gender equality, but this study identifies five areas focused more specifically on issues related to women’s empowerment in agri co-ops: women and poverty; women and the economy; women in power and decision-making; women and the environment; and education and training of women (UN Women 2021a). In 2015, the United Nations presented 17 Sustainable Development Goals (SDGs) for 2030 to continue the work begun by the Millennium Development Goals (MDGs) (United Nations Sustainable Development 2021). The fifth SDG, “Gender Equality,” aims to “achieve gender equality and empower all women and girls.” Two sub-goals refer more specifically to the empowerment of women through participation in agri co-ops: Goal 5.5 and Goal 5.A. The goals highlight a desire by the UN to see more women in positions of economic influence and control of resources, but women face unique challenges to gain empowerment through a co-op; the main culprits are their required, unpaid household labor and the legal restraints on female ownership of the means of production, specifically land, credit, and collateral (Majurin 2012; Sikod 2007). These goals provide ideals for governments and NGOs to achieve but putting these policies into action is difficult.

According to the UN SDG 5.A, access to “land... property, financial services, inheritance, and natural resources” are a marker for female empowerment (United Nations Sustainable Development 2021). It aims to, “undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws” (United Nations Sustainable Development 2021). Despite the research indicating the vital role of women in poverty reduction, anti-female legislation is evident in agricultural policies on

macro- and micro-economic levels worldwide (Sikod 2007). Policies have varying severity depending on the country, but generally include “diminished access to land and credit,” “unequal inheritance and divorce rights” and “less access than men to have agricultural inputs” (Norton 2004). The land women use for their business ventures is often not in their names, but is owned by their husbands, fathers, or brothers (Nair & Moolakkattu 2015).

UN SDG 5.5 aims to “ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life” as another way women can exercise autonomy and achieve empowerment (United Nations Sustainable Development 2021). Barriers to co-op access and success include cultural expectations that women are to be confined to traditional reproductive and caregiver roles outside of societal leadership positions (Sikod 2007). Similar limitations on women’s involvement can be found globally, for example, in Uganda and India (Lecoutere 2017; Dohmwirth & Hanisch 2019). Duguid and Weber (2016) found the main challenges hindering women in a cooperative setting were access and rights to financial and economic means; social, cultural, and legal rights to act independently; and namely participation within the organization.

For the EU, several key objectives are under the Gender Equality Strategy for 2020-2025: ending violence against women, equal representation of men and women across sectors of the economy and closing the gender gaps in areas such as caregiving, wages, pensions, and political decision-making (European Commission 2021). While gender equality is a stated goal of many international development agencies as a human rights issue, the ultimate drivers behind these efforts may be rooted in economic imperatives, such as the desire to create a more diverse and competitive labor force, increase consumer markets, and improve trade relations between nations (European Commission 2021).

2.6 National Policy Framework for Women’s Empowerment in Georgia

Georgia’s Eurocentrism can be traced back to its modern conception in 1991, as it turned its economic and political interests towards the west, and in recent years has been more vocal about its desire to join the EU (European Commission and Eastern Partnership 2022). Women’s empowerment and equality are major parts of the development strategies for the EU as well as the UN, and Georgia has responded during its 30 years of independence with its own programs of varying degrees of success (International Trade Administration 2022; United Nations Economic Commission for Europe 2014; USAID 2010).

The EU and Georgia have close economic ties due largely to the EU-Georgia Association Agreement of 2016, which includes a Deep and Comprehensive Free Trade Area (DCFTA); the EU continues to be Georgia’s largest partner in trade, with 21% of Georgia’s total trade passing through the EU in 2021 (European Commission and Eastern Partnership 2022). This agreement has strategic importance for Georgia’s Eurocentric shift and has the EU replacing Russia as its largest trading partner (International Trade Administration 2022). An estimated €812 million in Georgian goods were imported to the EU in 2021, and in the same year the EU exported €2 billion in goods to Georgia (European Commission and Eastern Partnership 2022). The relationship between the EU and Georgia is clearly important and mutually beneficial because the foreign development aid the EU gives is returned as prioritization for economic trade and political cooperation.

Apart from the 281 ENPARD cooperatives, Georgia is also the recipient of a significant amount of EU funding for other rural development and general modernization projects of the agricultural sector, transportation, infrastructure, and the judicial system; at €100 million annually, the EU is Georgia’s largest donor and in 2021 Georgia received “one of the highest levels of EU grant assistance per capita in the world” (European Commission and Eastern Partnership 2022). These economic ties greatly influence Georgia’s national gender and agricultural policies. Part of its strategy to keep the favor of the EU is to develop programs to combat inequality because it is specifically high on the agendas of the EU and UN

(International Trade Administration 2022; United Nations Economic Commission for Europe 2014; USAID 2010).

Between 1995 and 2003, the Georgian government made attempts to bring female equality to the forefront through commissions and policies influenced by the Beijing Platform for Action (United Nations Economic Commission for Europe 2014). They include, but are not limited to, Decree 511 about the Measures on Strengthening the Protection of Human Rights of Women in Georgia in 1999, the Three-Year Plan to Combat Violence against Women in 2000, and the Action Plan to Combat Trafficking in 2002 (United Nations Economic Commission for Europe 2014). Following the Rose Revolution of 2003, the Georgian government signed onto the UN's MDGs and created two bodies within the government to achieve MDG 3: "promoting gender equality and empowering women" (USAID 2010). In parliament, Georgia created the Gender Equality Advisory Council, and in the executive branch, the Gender Equality Governmental Commission (USAID 2010). In 2006, the government began the State Concept on Gender Equality and the National Action Plan on Gender Equality but has "ultimately proved to be unsustainable," and NGOs are working to fill in the gaps, according to USAID's Gender Assessment (2010).

In March 2022, Georgia (along with Moldova) applied for EU membership; Georgia had planned to apply in 2024 but expedited the process in direct response to the Russian invasion of Ukraine (RFE/RL 2022). Their goal was to make a political statement about their disapproval of the war and their pro-western stance, alongside the actual request for EU candidacy (RFE/RL 2022). The EU replied officially in June 2022 that it would be ready to consider granting EU candidate status to Georgia if certain conditions are met, including to "notably consolidate efforts to enhance gender equality and fight violence against women" (European Council 2022).

2.7 Gender Equality as an International Agricultural Trade Strategy

Part of Georgia's international agricultural trade strategy is to implement global policy frameworks on gender equality, as they are of growing importance to international governing

and advising bodies for their proven economic benefits (International Trade Administration 2022; United Nations Economic Commission for Europe 2014; European Commission 2021; USAID 2010). About 11% of Georgian trade goes through Russia, but Georgian farmers share a strong desire to further diversify their agricultural trading partners and move out of the Russian sphere of influence (Jenderedjian & Bellows 2021; European Commission and Eastern Partnership 2022). This is due to their difficult history and current conflicts with the post-Soviet giant (Jenderedjian & Bellows 2021). Understanding the fundamentals of the region's political and economic contexts is crucial to interpreting the motives of the EU and the Georgian Ministry of Agriculture regarding their work with ENPARD and women's empowerment.

For grape producers in ENPARD cooperatives, the production and sale of wine is crucial to their survival. Georgian wines have a unique palate to offer to luxury and niche markets of sommeliers who can appreciate its over five hundred varieties of indigenous grapes, but that has not always been the case for grape producers (Rimple 2019). Under the extractive economic institution of *kolkhozy*, central planners only allowed seven grape varieties to be grown, as quantity was valued over quality (Rimple 2019). Streamlining the value chain led to the homogenization of many vineyards and a lower quality of wine. Since gaining independence, grape producers have brought back many underutilized species to revive the distinctive regional wine market and pivot towards more niche markets abroad (Rimple 2019).

Improving financial outcomes is of high importance for co-op members and economic success is one strategy for gender equality and raising the general standard of living (Vicari & Borda-Rodriguez 2014; Ferguson & Kepe 2011; Lecoutere 2017). For honey co-ops, expanding to European markets from the niche market angle is also a viable strategy for diversifying trade partners because experts claim Georgian honey has high potential in the EU (Europe for Georgia 2015). However, obstacles to reaching supermarket shelves abound: quality control issues (e.g., the use of antibiotics, imitation honey), the inability to produce large quantities for multinational contracts, a deficit of available government support for loans and credit, and the general European market's desire for monofloral honey (Europe for Georgia 2015). Georgian honey tends to be multifloral due to the multi-crop smallholder farming style and

Georgia's rich agrobiodiversity, however introducing multifloral honey as a niche product is a possible marketing strategy for strengthening the financial outcomes of co-op members (Europe for Georgia 2015).

Among many societal and cultural shifts towards the west, a few recent events have accelerated these trade strategies. From 2006-2013, Russia banned imports of Georgian wine, citing that consumer safety tests showed dangerous amounts of heavy metals and pesticides, and in some cases the wines were entirely counterfeit (Parsons 2006; The BBC 2006). At the time, about 80% of wine exports were consumed in Russia, valued at \$90 million (Antidze 2007; The BBC 2006). Some Georgians claimed the move was more political than practical, but an investigation did find seven Georgian wineries were exporting counterfeit wines to Russia, and they were shut down (Mirovalev 2015). Georgian vintners have been quoted saying the Russian wine market is so underdeveloped that they sell their worst wines to Russia and keep the higher-quality exports for sale to the US and EU (Antidze 2007; Mirovalev 2015; Rimple 2019).

During the eight year-long embargo, Georgian wines continued to be sold to foreign markets like the EU and US with no quality complaints, and Georgia has been able to diversify its wine trading partners (Antidze 2007). Georgia's unique "orange" wine is now enjoying a renaissance in luxury wine markets, and vintners intend to strengthen their position abroad (Antidze 2007; Rimple 2019). It is clear from historical and current events that the Russian wine market is not yet viable for fine wines, therefore vintners are looking to improve their agri trade relations with the EU and US (Antidze 2007; Mirovalev 2015).

Grape producers are not the only ones at risk regarding trade with Russia. Border disputes, political tension, and active wars in the region put other farming communities in vulnerable financial situations when they rely solely on Russia as a trade partner or for remittances (UN Women 2021b; Jenderedjian & Bellows 2021). Rural women are especially at risk when regional conflicts and embargos impact market stability (UN Women 2021b; Jenderedjian & Bellows 2021). The US and EU have expressed interest in maintaining their presence in the region through improving trade relations and funding programs such as the Georgia Hazelnut

Improvement Project (G-HIP) through USAID (elaborated on in Section 6.8) and the EU-funded ENPARD program. Georgia is open to the US and EU's influence however many barriers still stand between Georgia maximizing its agricultural output, expanding international trade, and improving gender equality to the standards set up by the UN and EU (Europe for Georgia 2015; United Nations Sustainable Development 2021; International Trade Administration 2022). Supporting effective cooperative structures for women's empowerment is one strategy Georgia can use to overcome all three of these barriers and align itself more closely with the EU's standards for candidate status.

3. Aims of the Thesis

The specific objective of this study was to focus on answering if ENPARD created and supported agricultural cooperatives are an effective organizational structure for empowering rural women in Georgia through the examination of:

- i. female members' and female non-members' perspectives on cooperative membership, including the benefits from internal (being a cooperative member) and external (not being a member of any cooperative) views,
- ii. the rates of female members' active participation in cooperatives compared to their male counterparts, and
- iii. determinants affecting women's joining of a cooperative.

4. Methods and Materials

4.1 Sampling and Study Site

Georgia has an area of 69,700 square kilometers and a population of about 3.7 million people (The World Bank 2021). It is mountainous with fertile valleys on the eastern and western sides of the mountain ranges and is most well-known in international trade for its production of wine, nuts, and fruits (International Trade Administration 2022). More than 40% of Georgians, or 1.48 million people, live in rural areas, and 93.6% of households have less than 2 hectares of agricultural holdings; these small-scale farming operations account for 21.5% of total agricultural land (International Trade Administration 2022). Only 1.5% of households have more than 5 hectares of agricultural land, leaving commercial agriculture still very rare (International Trade Administration 2022).

Agribusiness plays a major part in the economy, comprising 52% of the labor force and 43% of the land (FAO 2021). The Georgian government identifies agriculture as one of its primary targets for development (International Trade Administration 2022). Despite agri-business' importance, Georgia tends to operate on a heavy trade deficit due to low productivity and value chain inefficiencies, however, hazelnuts and wine are Georgia's top exported agricultural products (World Bank Group 2017). Grapes, hazelnuts, and honey are the main outputs for the studied co-ops due to their crucial role in the agricultural industry. Figure 1 shows the location and density of the cooperatives chosen for this study, and Figure 2 shows their main product(s).

Data was collected from members of ENPARD Georgia co-ops in August and September 2018. ENPARD has created and supported 281 cooperatives with a total population of 4,669 members. The regions and cooperatives were selected because of their high concentration of three products: honey (apiculture), hazelnuts, and grapes (as visualized in: Figure 1, Figure 2, and Table 1).

The study was narrowed and categorized to 91 co-ops due to their dominance among newly created co-ops, their importance for the Georgian agricultural potential and export, as well as shared similarities (e.g., amount of assets received from ENPARD, short marketing channels and weak position of farmers vis-à-vis local middlemen) in the value chain organization. The sample was further reduced to 42 co-ops during the member data collection, mainly due to members' unwillingness or inability to participate in the survey, which is acknowledged as a study limitation. Several targeted cooperatives reported that they stopped or interrupted group activity, which is typical for similar top-down external interventions.

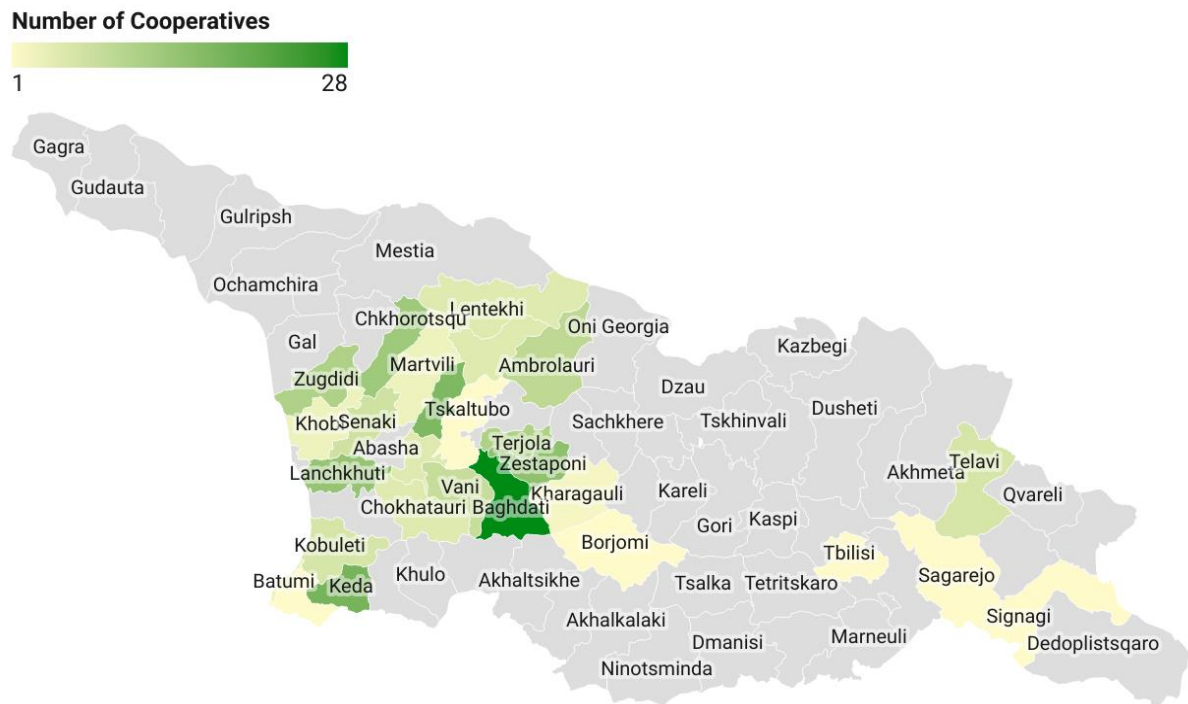


Figure 1. Locations and Density of Surveyed ENPARD Cooperatives in Georgia (N=42)

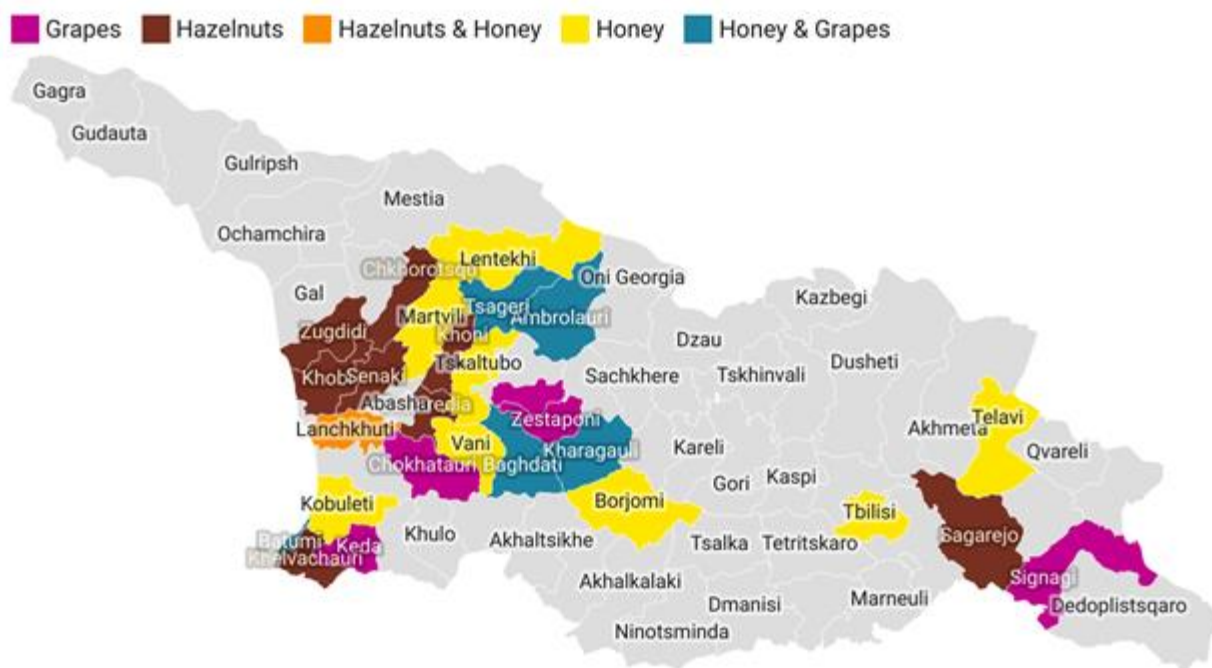


Figure 2: Main Agricultural Product(s) in Selected Areas

Table 1. Respondents Represented by Main Product (N = 210)

	Cooperative Members		Comparison Group	
	Male	Female	Male	Female
Total N	76	29	69	36
Main Product				
Grapes	20	8	37	17
Hazelnuts	23	14	21	10
Honey	33	7	11	9

4.2 Conceptual Framework

We employed a 3-pronged methodological approach to coincide with the three objectives of this thesis: an aggregated women's empowerment index (WEI) to determine the difference in perspectives by female members and female non-members, a comparison of the rates of active participation between male and female members, and an analysis of the possible determinants of female membership using a binary logit regression model.

An employee who has worked for 25 years in the Georgian Ministry of Agriculture was also interviewed as a key informant. They have worked closely with the USAID Georgian Hazelnut Improvement Project (G-HIP). The interview was conducted after the data was analyzed and they provided valuable insights on the operations between the Ministry, foreign development aid, and local organizations.

4.2.1 Aggregated Women's Empowerment Index

Recent literature on the impact of agricultural cooperatives on their members has considered social benefits equally as important as economic benefits, with a particular focus on women's empowerment (Meier zu Selhausen 2015; Lecoutere 2017; Dohmwirth & Hanisch 2019). The concept of women's empowerment used in this thesis assumes that power is gendered. Compared to women, men have greater access to resources, have fewer social and household duties, and primarily operate in public spaces from which they enjoy greater social benefits (Huis et al. 2017). For this thesis, empowerment is a multifaceted process of change from unpowered to empowered. It takes place at individual (individual capacity, ability in personal choice) (Kabeer 1999) and collective (collective behaviour shaped by collective norms) (Kurtis et al. 2016) levels. Originating from Kabeer's (1999) three interconnected spheres of resources, agency, and achievements, we employed the Three-Dimensional Model by Huis et al., (2017) combined with Lombardini et al.'s (2017) Aggregated Women's Empowerment Index, including the Rowlands (1997) power structure of the four dimensions of power. The Three-Dimensional Model for Women's Empowerment examines the micro-level (self), meso-level (with peers and relatives), and the macro-level (broader community) to measure

empowerment (Huis et al. 2017). Lombardini et al. (2017) elaborated on this with the framework of changes at personal (changes within the person), relational (changes in relationships and power relations within a woman's social network) and environmental (formal and informal changes in the society) levels and enriched it with power dimensions (Rowlands 1997). This resulted in the following scheme: personal changes encompass power within (how a woman perceives herself and other women) and power to (ability to decide actions and undertake them). For relational changes, there are power with (social capital and group involvement) and power over (the power relationships between the woman and other individuals).

The three dimensions of women's empowerment, despite their naming, have been applied in several studies focusing on agri co-ops' impact on other social arrangements. Ferguson and Kepe's (2011) research in Uganda revealed that women after joining the cooperative surged their internal confidence (a personal change), developed numerous skills (personal and relational changes) which led to perceived higher social status in the broader community (an environmental change), and became the main decision makers in their household regarding growing, selling, and the use of agricultural income (relational and environmental changes). Similarly, another study from Uganda by Lecoutere (2017) confirmed positive changes in power relations of female cooperative members in all three dimensions.

On the other hand, some studies showed that membership alone, is insufficient for female empowerment under traditional gender roles. Duguid and Weber (2016) revealed that societal structures hinder women's equality in cooperative settings through asymmetrical access and rights to financial and economic means for female members. Additionally, social, cultural, and legal rights prevented women from acting independently which led to their lower participation within the organization.

4.2.2 Rates of Active Participation

In our study, we further focus on the level of activity of members because co-op success and group effectiveness are greatly dependent on members' active participation. For female

members, their participation is believed to be compromised by their larger social obligations, safety concerns, and more caretaker and household duties due to uneven loads of unpaid labor within the home (Huis et al. 2017; Meier zu Selhausen 2015).

The first criterion was selling over 50% of outputs through the ENPARD Cooperative. Integrated Dairy Services, a team of smallholder dairy co-ops in Afghanistan, found women who use their membership to increase their income hold greater decision-making power within their households over finances, with female members retaining the investing and spending power of 90% of milk profits (Duguid & Weber 2016). Additionally, selling the majority of produce through the co-op improves group interdependence and cohesion, which are key components to the longevity of co-ops and trust among members (Taruvunga et al. 2021). Consequently, lower participation results in members selling produce outside of the co-op structure due to cash flow issues and opting out of voluntary contributions to group funds and microcredit systems; it can be difficult to participate when co-op trainings and meetings are not scheduled at a time and place in which all members can travel safely (Meier zu Selhausen 2015).

The second piece of criteria was if the member voted for their leadership. Leadership roles remain scarce for women, as Duguid and Weber (2016) found in their study of saving and credit co-ops (SACCOs), despite the female membership rates growing steadily. However, SACCOs are strategizing their business models to better fit the unique needs of women, who are often limited in their abilities to perform formal labor opportunities and provide collateral (Duguid & Weber 2016). With this in mind, we decided voting on leadership is one step towards leadership roles women can take without adding on yet another task outside of household labor.

Asking respondents if they considered themselves an active member of the co-op became the third piece of participation criteria. Similar to Ferguson and Kepe's (2011) approach, we chose an abstract quality for one of the three criteria that would give insight into respondents' perceptions about their relationship with their co-op.

4.2.3 Determinants of Female Cooperative Membership

Under communism, participation in the *kolkhozy* was mostly obligatory, but membership in ENPARD Georgia co-ops is consistent with the seven principles set forth in the International Cooperative Alliance (ICA) in 1995, which include the first two principles, respectively: “voluntary and open membership” and “democratic member control” (International Labor Organization 2015). Because Georgians can choose whether to join a co-op, and further, which one they would like to join, one part of the objectives of this study is to determine which factors influence female membership or lack thereof.

Ten basic variables were chosen and analyzed (elaborated on in Section 4.4.3) based on a similar approach by Meier zu Selhausen (2015). These possible factors were chosen because they are not likely to be influenced by entering the co-op.

The basic demographic variables included age (X_1), educational status (basic, elementary, secondary, tertiary) (X_2), main product (grapes, hazelnuts, honey) (X_3), and marital status (single, married, divorced, widowed) (X_4).

Household size (X_5), and number of household members under 18 or over 65 (X_6) were human resource analyses used as indicators of the number of dependent members and how much unpaid domestic labor the woman is possibly expected to do. They were measured as continuous variables. As evidence from Lecoutere (2017) concluded, P’KWI membership did not lead to lower workloads at home for women nor did it change divisions of labor in farming activities. Additionally, Jenderedjian & Bellows (2021) found Georgian women tend to have the same amount of housework regardless of their work outside of the home.

Years spent in the farming sector (X_7) was measured as a continuous variable that may influence field productivity due to increased specific knowledge of the land, improved management of the resources, and the selection of inputs. It may also increase the number of network connections farmers have for extension services, selling, marketing, and transportation outside of a co-op structure.

Method of land acquisition (X_8) was a nominal variable and part of the land resource analysis. It was categorized by family, purchase, family and purchase, rent, or privatization efforts post-*Kolkhozy*. It is of interest to the research because of Georgia's history of land acquisition, collectivization, then privatization by the government. While not unique to post-Soviet countries, the *kolkhozy* system provides an added level of specificity to studies in this region regarding farm-household resource analyses.

Distance from the closest market (X_9) was a continuous variable measured in kilometers. Transportation to markets, processing centers and testing facilities are barriers that may be eased with access to bulk shipment through membership. Meier zu Selhausen's (2015) research of Ugandan coffee producers also investigated market distance as it related to a female member's likelihood of using the cooperative for product marketing.

Farming as the main source of income (X_{10}) was a binary variable. Lecoutere (2017) found members of the P'KWI cooperative had more diversified income sources (spread out over farming, livestock, poultry, commercial sources, salaries, casual labor, pensions, and remittances) than non-members. Having other main sources of income may impact a farmer's decision because of minimum quotas to join and possible scheduling conflicts with other work.

4.3 Data Collection

The survey was carried out by researchers from the *Czech University of Life Sciences Prague* and *Akaki Tsereteli State University in Kutaisi* as personal interviews with respondents in the Georgian language. The researchers used cluster and snowball sampling methods to reach respondents. The answers were reported via tablets with *Nestform* software.

The farmers of honey, grapes, and hazelnuts lived across 10 regions and 31 municipalities and were surveyed with a structured questionnaire. Non-members were selected after the initial consultation with local co-op support organizations within the same regions as the members. Co-ops were required to be active a minimum of three years to collect viable financial data

comparing outputs between 2014 and 2017. Since the comparison group farmers were from the same areas, we cannot rule out some spill-over effect from the supported groups, where some benefits and knowledge might be disseminated to non-members as well.

The standardized cooperative monitoring questionnaire and contrafactual questionnaire (for non-members) were employed as instruments for data collection. The entire cooperative questionnaire consisted of 165 qualitative and quantitative questions. Five-point Likert scales helped gauge respondents' perceptions on questions; Likert (1932) developed these scales to rank opinions, and the 5-point scale the researchers employed for this study used the categories of "strongly disagree," "partly disagree," "neither agree nor disagree," "partly agree," and "strongly agree."

The questions were divided into four categories: demographic and socio-economic data (e.g., sex, age, level of education), factors that may influence a farmer's decision to join a co-op (e.g., barriers to entry), performance criteria (e.g., financial situation between 2014 and 2017, costs of inputs), and social capital (e.g., ability to participate in co-op activities, increased access to services).

Not every one of the 165 questions was posed to every participant (e.g., honey producers did not answer questions related to hazelnut production). For members, some questions included topics related to, but not limited to: levels of participation, criteria candidates needed to meet to join the cooperative, and the challenges of membership. The comparison group answered what they've heard about the agricultural cooperatives in their area, if they would consider joining one, their expectations, and barriers to entry. Female members were asked if they saw a decrease in dependency on their spouse's income and had more time to meet with other female farmers. For the purposes of this study, only parts of the questions were used for analysis.

4.4 Data Analysis

The data was translated from Georgian to English, then sorted, cleaned, and coded in Microsoft Excel. It was analyzed in IBM SPSS, ver. 28.

4.4.1 Aggregated Women's Empowerment Index

To determine the significant differences between female members and non-members, the aggregated women's empowerment index (WEI) variables identified in each of the dimensions and characteristics were taken and compared with a non-parametric Mann-Whitney U test in case of ordinal (where statements using five-point Likert scale were applied) and continuous variables and Chi-square in the case of nominal variables. The Mann-Whitney U test is used to test whether there is a difference between two independent samples that are non-parametric, so the data does not have to be evenly distributed, as is the case in this data set.

The selected questions for WE (see: Appendix B) were framed by the Women's Empowerment Index (WEI) model (Figure 3) due to its context- and situational-specific variability. For the purposes of this study, the model's compartment sizes are adjusted to represent the focus of the survey. Most questions focused on the micro-(personal) and meso-(relational) levels, with less emphasis on macro-(environmental) level changes, due to the young age of the cooperatives and the many years it takes to see environmental changes.

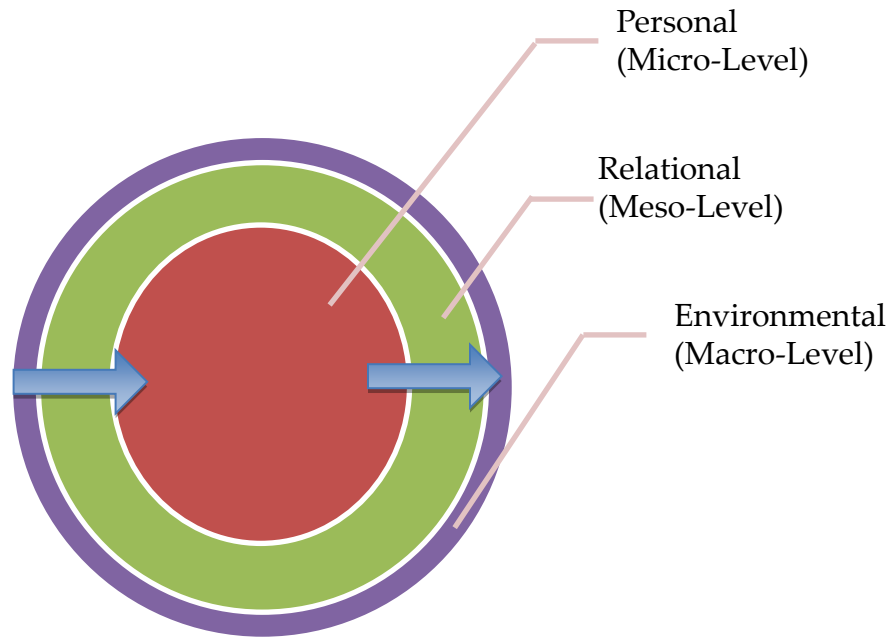


Figure 3: Three-Dimensional Model for Tracking the Direction of Changes for Empowerment (inspired by Lombardini et al. 2017)

Applying an innovative aggregated approach to WEI, we operationalized the dimensions and constructs from Lombardini et al. (2017) within the context of the cooperative monitoring data collection design where gender equality was taken only as a cross-cutting issue. Table 2, (see Appendix A), has the full study design in detail, and includes the dimensions, constructs, characteristics, variables, research, values, and references for each of data points.

The **Personal** (micro-level) dimension included the constructs of “power from within” and “power to” to refer to the agency expressed on an individual level. “Power from within” includes the following characteristics (and context-specific designated variables): perceptions on individual economic independence (market prices, inputs, market security, market dedication, and reduction of the costs of production); self-confidence (education level); self-efficacy (time dedication); and knowledge (of support cooperatives). “Power to” included:

access to credit, processing, information, and services; and individual capacity (training and participation opportunities, and benefits).

The **Relational**, or meso-level included the constructs of “power over,” “power to,” and “power with” to categorize respondents’ agency within the community. “Power over” referred to: control over assets (total land size, size of cultivated land, and processing equipment); decision-making; economic independence (increases in income); and contribution to household income. “Power to” examined: power in markets (bargaining power) and personal autonomy. “Power with” referred to: social capital (business contacts and trust) and participation in the community (organizational membership, active work communities, being an active member, and sharing of information).

The **Environmental** macro-level reviewed accessibility within the environment (distance from markets and access to extensions).

4.4.2 Rates of Active Participation

The levels of participation in the cooperative of female and male members were measured through three determinants indicated on findings from previous studies. The first examined the **percentage of outputs sold through the cooperative**, where answers over 50% indicated meeting one determinant of participation criteria.

The second determinant focused on respondent’s **active participation in the selection of the leadership**, with a binary “yes” or “no” answer as women tend to be underrepresented in leadership positions but can still vote on their leaders (Dohmwirth & Hanisch 2019).

The third determinant reflected the respondents’ perceptions of **being an active member** expressed on 5-point Likert scale. Answers of “partly agree” and “strongly agree” were used to determine respondents’ eligibility.

Levels of participation among members were ranked as active, **medium, low, or passive**. “Active” participants fulfilled all three criteria, “medium” participants met any two of the

criteria, and “low” participants met any one of the criteria. Meeting none of the criteria warranted cooperative members as “passive.”

4.4.3 Determinants of Female Cooperative Membership

To determine factors influencing the female respondents’ membership in agri co-ops, we used a binary logit regression model, with membership as the dependent variable (0=non-membership, 1=membership). The ten variables (denoted by X_k) were chosen based on the approach that these are not likely to be influenced by entering the co-op, as was similarly done by Meier zu Selhausen (2015). The ten variables are listed in Section 4.2.3. The formula is as follows:

$$\pi(X) = \frac{\exp(\beta_0 + \beta_1 X_1 + \dots + \beta_k X_k)}{1 + \exp(\beta_0 + \beta_1 X_1 + \dots + \beta_k X_k)} \quad (1)$$

A binary logit regression was used as the statistical model for this analysis because there are two (binary) outcomes: membership or non-membership. A logistic regression measures the relationship between the categorical target variable (membership) and at least one independent variable (for example, X_{10} : distance from the market or X_1 : the respondent’s age). It is useful for situations with two (binary) outcomes. This technique helps to identify important factors impacting the target variable and the nature of their relationship.

The logistic regression coefficient (β) associated with a predictor (X_k) is the expected change in logistical odds of having the outcome per unit change in X_k (for example, household size). Therefore, increasing the predictor by 1 unit (or going from one unit to the next) multiplies the odds of having the outcome by e^β .

5. Results

From the total sample, 49% (104 respondents) had a tertiary education, followed by 42% (90 respondents) with a secondary education. Thirty-nine percent grew grapes, 32% grew hazelnuts, and 28% produced honey. Seventy-nine percent of respondents were married, 15% were single, and 4% were widowed. Ages ranged from 22-81 years, with a mean and median of 50. The average household size for all respondents, as well as for the cooperative member subset, was 4.8 members. The average number of household members below 18 or over 65 was 1.8 for all respondents and 2 for members. Most farmers operated their farms on less than 2 hectares, and most land was acquired through the family. Table 3 displays the full demographic characteristics below.

The data was tested with the non-parametric Kruskal-Wallis test for independent samples to detect the subsets' differences. Women from the comparison groups showed significantly longer farming of their main product – over 23 years compared to almost 16 years in the case of female cooperative members. Men showed significant differences in their education, in favor of tertiary education, and their marital status, in favor of being single. Their female counterparts predominantly earned a secondary education and were married.

Table 3. Demographic Characteristics of the Respondents (N=210)

	Cooperative Members				Comparison Group			
	Female		Male		Female		Male	
N	29		76		36		69	
	M.	S.D.	M.	S.D.	M.	S.D.	M.	S.D.
Age (years)	49.07	13.72	48.53	13.56	50.22	13.02	51.04	0.91
Educational Status	2.34*	0.721	2.63*	0.51	2.14	0.83	2.17	0.69
1 = basic								
2 = elementary								
3 = secondary								
4 = tertiary								
Household Size (no. of members)								
Main Product	1.79	0.86	1.96	0.76	2.19	0.86	2.23	0.89
1 = Hazelnuts								
2 = Honey								
3 = Grapes								
Marital Status	2.07*	0.46	1.8*	0.43	2.03	0.61	1.87	0.38
1 = single								
2 = married								
3 = widowed								
4 = divorced								
Household Members Under 18 or Over 65 (no. of members)	2.03	1.30	1.95	1.99	1.42	1.23	1.75	1.52
Years Spent in Farming Sector	15.97*	13.32	20.83	13.22	23.19*	13.51	23.54	14.6
Total Land Holdings (hectares)	2.67	5.19	2.76	4.64	1.79	1.85	1.49	1.11
Distance from Farm to Nearest Bigger Regional Market (km)	18.29	20.36	19.11	28.13	11.14	8.87	15.77	16.79
Acquirement of Farmland	1.48	0.95	1.55	1.01	1.64	2.56	2.00	3.14
1 = Family								

2 = Purchase

3 = Family and purchase

4 = Privatization after *Kolkhozy*

*Significant difference, $p < 0.05$

5.1 Aggregated Women's Empowerment Index

We developed the Aggregated Women's Empowerment Index to compare the level of empowerment of women in the co-ops and in a comparison group. The results presented in Table 4 show significant differences only in the micro- and meso- levels, as expected due to the increased number of questions related to those fields, and the extended amount of time needed for macro-level changes (Figure 3).

Female members showed empowerment in the Personal dimension through the constructs of "power from within," represented by significantly better access to agricultural inputs of higher quality and lower price and decreased time dedicated to marketing of their produce contributing to higher economic independence, and increased knowledge about the support for cooperatives. In the construct of "power to," the significant differences were represented by increased individual capability through increased training opportunities, and by increased access to processing of their produce. In the construct of "power over," women showed increased cultivated land compared to women in the comparison group.

Within the Relational dimension, the significant empowerment of female members was shown through the construct of "power to," represented by increased personal autonomy and power in markets through increased bargaining power, and of "power with," represented by increased social capital through the number of business contacts and participation in community via active membership of collective organizations and mutual exchange of information.

Within the Environmental dimension, women in cooperatives showed significantly higher access to extension services.

Table 4. Comparison of WEI Indicators for Female Members and Non-Members (N=65)

Dimensions	Constructs	Characteristics	Variables	Female Cooperative Members (N=29) Mean (SD)	Female Non-Members (N=36) Mean (SD)
Personal/ Micro-Level	Power from within	Opinion on economic independence	Inputs**	2.56 (1.13)	2.96 (1.16)
			Marketing time dedications*	2.61 (1.07)	2.67 (1.17)
	Power to	Self-efficacy Knowledge	Time dedication***	3.53 (1.2)	4.59 (0.69)
			Knowledge about financial and extension support for establishment of cooperatives (from government or NGOs) ***	0.36 (0.48)	0 (0)
		Access to processing Individual capability	Access to processing**	3.47 (1)	3.3 (1.17)
			Training opportunities**	3.86 (1.07)	3.96 (1.22)
		Participation opportunities	3.58 (1.33)	3.07 (1.07)	
Relational/ Meso-Level	Power over	Control over assets	Land cultivated**	0.91 (0.79)	0.94 (0.66)
	Power to	Power in markets Personal autonomy	Bargaining power*	3.47 (0.97)	3.37 (1.00)
			Autonomy*	3.53 (1.08)	3.93 (0.95)
	Power with	Social capital	Business contacts**	3.69 (0.78)	3.7 (1.03)
Environmental/ Macro-Level	NA	Access to extensions	Extension improvement**	3.47 (1.08)	3.41 (1.15)

The differences were tested with Mann-Whitney U test for ordinal variables and Chi-square for nominal variables.

***p<0.01, **p<0.05, *p<0.1

5.2 Rates of Active Participation

Levels of participation were measured through three determinants. The criteria for active participation included selling over 50% of produce through the co-op, participating in the selection of leadership, and answering positively (“strongly agree” or “partly agree”) in the self-assessment of being an active member. As visualized in Figure 4, almost half of the women were active members, but only 30% of men met all the criteria. Notably, no female cooperative members ranked as “passive,” meanwhile 20% of men were passive members. Male members showed a higher variance of social capital in terms of membership of farmers organizations (responses ranged from being members of 0 to 15 other farmers organizations), while female members’ responses only ranged from 0 to 2. However, the distribution of membership in farmers’ organizations across the members group based on sex was the same ($p = 0.713$).

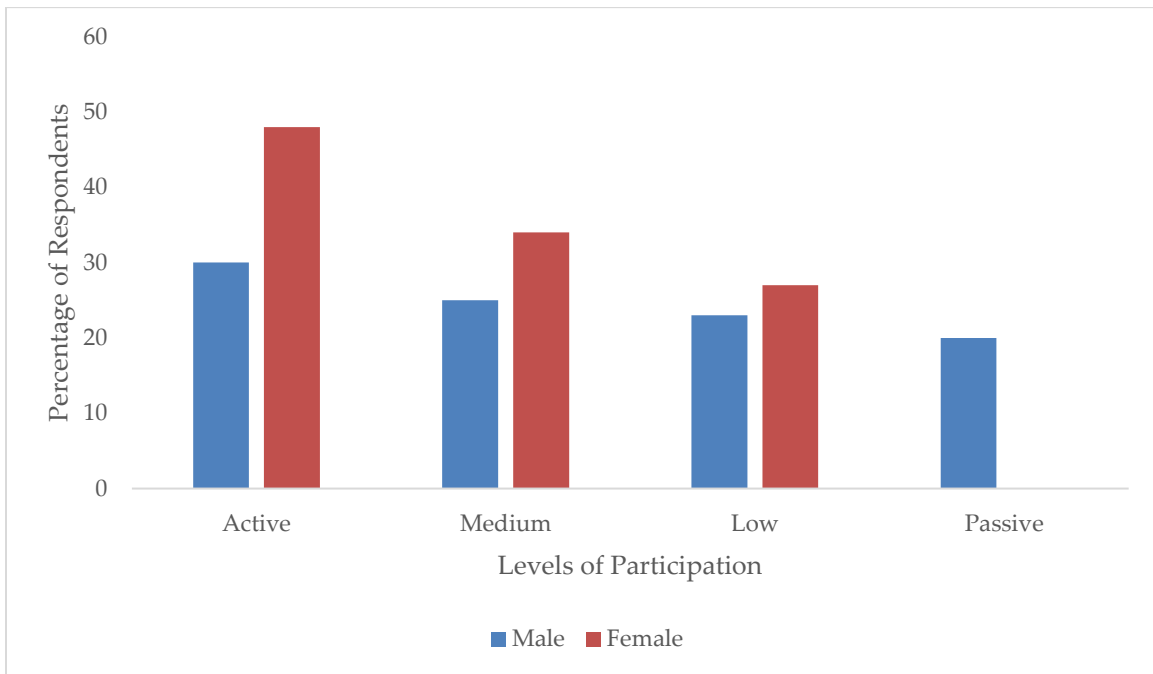


Figure 4. Sex-Disaggregated Levels of Cooperative Members’ Participation (N = 105)

5.3 Determinants of Female Cooperative Membership

The binary logistic regression was performed with a backwards elimination in five steps (Model 1 – 5 presented in Table 5), to determine the most significant variable(s) influencing female membership. The exponential value of B, also written as $B(exp)$, or the odds ratio indicates the degree of the outcome changing when the variable being tested changes by one unit. When the $B(exp)$ is less than one, it indicates a decrease in the odds of the event (membership) occurring.

This analysis resulted in four significant variables. The results showed that the size of the household, years spent in the respective farming sector, and educational status have a significant, but negative, effect on female membership. When household size increased by one unit, *the* $B(exp)$ of 0.95 indicated a decrease in the odds of becoming a member, given that the other variables in the model were constant. Similarly, one year more spent in the respective farming sector produced an odds ratio of 0.99, or a decrease in the likelihood of female membership. If a woman increased her education by one unit against the reference level (primary education), it led to a 0.82 decrease in the odds of membership. Thus, we can say that women with a secondary education, living in bigger families and being involved in the farming of the main product for a longer time are less likely to enter the co-ops.

However, by an odds ratio of 1.17, women on more distant farms were more likely to become members. This was the only result that showed a positive relationship.

Table 5. Determinants of Women’s Membership (Binary Logistic Model) (N=63, note 2 questionnaires were excluded from the analysis for incomplete answers)

Indicator	Model 1 Coefficient (S.E.)	Model 2 Coefficient (S.E.)	Model 3 Coefficient (S.E.)	Model 4 Coefficient (S.E.)	Model 5 Coefficient (S.E.)	B(exp)
Age of Respondents (years)	-0.32 (0.45)	-0.32 (0.045)				
Marital Status (reference - single)						
Marital Status (1=married)	21.716 (40192.931)	21.716 (40192.925)	21.753 (40192.887)	21.087 (40192.937)		
Marital Status (1=widowed)	23.202 (40192.931)	23.204 (40192.925)	23.377 (40192.887)	22.458 (40192.937)		
Marital Status (1=divorced)	23.415 (40192.931)	23.393 (40192.925)	23.088 (40192.887)	22.542 (40192.937)		
Main Product (reference- hazelnut)						
Main Product (1=honey)	1.324 (0.979)	1.335 (0.950)	1.134 (0.887)			
Main Product (1=wine)	0.707 (1.078)	0.711 (1.076)	0.555 (1.052)			
Household Size (no. of members)	-0.776** (0.336)	-0.775 (0.335)	-0.715 (0.319)	-0.670 (0.309)	-0.538** (0.256)	0.946
No. of HH Members	0.671 (0.424)	0.673 (0.422)	0.618 (0.406)	0.545 (0.378)	0.549 (0.348)	
< 18 Years Old or > 65						
Years in Farming Sector	-0.048 (0.38)	-0.047 (0.035)	-0.058 (0.031)	-0.061 (0.032)	-0.67** (0.029)	0.990
Acquirement of Farming Land (reference – family)						
Acquirement of Farming Land (1= purchase)	21.741 (21024.982)	21.754 (21037.085)	21.658 (21217.212)	21.646 (21230.897)	21.385 (21077.355)	
Acquirement of Farming Land (1= family and purchase)	21.379 (19828.289)	21.375 (19933.595)	21.947 (19661.258)	22.135 (20238.706)	22.095 (20419.259)	
Acquirement of Farming Land (1=	20.644 (40192.969)	20.664 (40192.969)	20.757 (40192.969)	21.204 (40192.969)	21.154 (40192.969)	

rent)						
Acquirement of Farming Land (1 =	-19.182 (27636.100)	-19.166	-18.767	-19.475	-20.196	
privatisation)		(27799.880)	(28036.594)	(27836.595)	(27799.003)	
Distance of the Farm to the	0.098** (0.044)	0.097 (0.043)	0.090 (0.041)	0.096 (0.042)	0.086**(0.037)	1.173
Nearest Bigger Regional Market						
Center (km)						
Farming as a Main Income	-0.042 (0.917)					
Farmland (ln)	-0.775 (0.548)	-0.780 (0.534)	-0.816 (0.537)	-0.758 (0.517)	-0.700 (0.475)	
Education (primary)						
Education (1=secondary)	-4.245** (1.919)	-4.229 (1.884)	-4.199 (1.897)	-4.078 (1.785)	-3.435**(1.651)	0.819
Education (1=Tertiary)	-1.882* (1.077)	-1.873 (1.057)	-1.921 (1.033)	-1.698 (0.954)	-1.102 (0.810)	
Constant	-18.969 (40192.931)	-19.005	-20.430	-19.262	2.290(1.508)	
		(40192.925)	(40192.887)	(40192.937)		
Nagelkerke R ²	0.577	0.577	0.571	0.550	0.509	

**p<0.05, *p<0.1

5.4 Perspectives of Female Cooperative Members on Cooperative Joining and Membership

Ninety percent of female members had to meet criteria to join the co-op (Table 6). Land or equipment quotas were the most common conditions, followed by monetary requirements. Membership fees ranged from 100-500 Georgian Lari (€24-€120), and a few women responded with their specific volume requirements of “200kg [of] hazelnuts” and “one hectare of agricultural land.” The surveyed women still faced challenges related to the production and marketing of their produce, and mostly lower than expected profits. Distance and lack of access compounded the initial challenge of low profits; two honey producers separately answered they had “difficulty in selling to bigger regional markets,” and “[could not] access the laboratory to get the quality certificate for [their] produce.” Only 6.8% of female members were board members, but most female respondents voted for their leadership.

Table 6. Perceptions of Female Cooperative Members on Joining the Cooperative and its Performance (N = 29)

	Frequency*	%
Conditions for Joining the Cooperative		
Land or Equipment Quota	13	52.0
Financial Obligations (Fees)	8	32.0
Requirement on Volume of Production	3	12.0
Other	1	4.0
Main Challenges Compromising the Cooperative Membership		
Low Profits	13	43.3
No Challenges	9	30.0
Lack of Market for Their Goods	4	13.3
Difficulty in Meeting Quality Requirements	2	6.6
Lack of Business Skills	1	3.3
Low Involvement from Cooperative Members	1	3.3

*More than one option was possible

Regarding socio-economic benefits, female respondents were questioned about the possibility of sharing their views, independence from their spouse's income, and on the possibility to build female social networks. When asked if "members candidly and willingly share their views in the cooperative," all respondents answered with "partly agree" or "strongly agree." Most women (79%) either "partly agreed" or "strongly agreed" to the statement that cooperative participation made them more independent from their spouse's income. Similarly, most female members (75%) either "partly agreed" or "strongly agreed" that their chances to meet with other female farmers improved because of their membership.

5.5 Perspectives of Female Cooperative Members on the Roles of Family and Gender

We aimed to discover the extent to which the family of a female member played a role in her active participation, the perceptions female members have on both gender representations in co-ops, and overall group dynamics. Over half of the female respondents (n=15) reported that their husbands were in the same co-ops, and the rest (n=14) confirmed that they were in the cooperative without their husbands. The reasons behind the decision to join the cooperative without their spouse included "a family decision" (57%), "not having a husband" (37%) and one had a husband living abroad (6%).

The female members were asked about their perceptions on the role of family towards women's cooperative participation, the gender composition of the board and members, and its importance for co-op performance. The answers were categorized based on the number of other family members in the co-op (Table 7). As for the contributing role of a family in the participation of women in the cooperative, the respondents covered the whole scale from "agree" to "strongly disagree." The further responses bring to light valuable results about the opinions of these women on the necessity of representation of gender within a co-op setting. When asked whether it is crucial that most members are of the same gender, the women tended to answer positively ("agree" or "strongly agree"), yet when asked

whether it is crucial that both genders are present in leadership, most answers leaned negatively (“disagree” or “strongly disagree”).

Table 7. Distribution of Perceptions on the Role of Family and Gender in the Cooperatives as Perceived by Female Cooperative Members (N=29)

No. of other family members in a cooperative	No. of female respondents	Breakdown of no. of female respondents	Statements*		
			Family contributed the most towards women’s participation in a cooperative.	It is crucial that most cooperative members are of the same gender.	It is crucial that both genders are present in the leadership position of a cooperative.
0	14	3	neutral	--	neutral
		1	+	+	+
		2	neutral	+	--
		5	-	+	-
		3	--	+	variance
1	5		+	variance	-
2	7		+	+	--
3	3		variance	variance	--

*The perceptions were measured 5-point Likert scale, where 1= "strongly disagree", 5 = "strongly agree"

Legend: + = agree, - = disagree, -- = strongly disagree, neutral = neutral opinion, variance = the answers in the respective subgroup go across the scale.

5.6 Perspectives of Female Non-Members on Cooperatives

Only 23% of the female comparison group admitted that they had considered joining a co-op. Most of them (75%) reported that the primary motivation would be higher profits and better market access (Table 8), which is consistent with what female cooperative members reported (Table 5). The remaining 77% of respondents answered they had not considered joining and cited lack of information about cooperative options and a preference to work alone as the most common reasons against joining (Table 8). A surprising result was that barriers of entry (e.g., not meeting membership requirements) were not as impactful in this study as the previous literature suggested.

6. Discussion

6.1 Aggregated Women's Empowerment Index

The aggregated WEI results were overall consistent with other literature regarding the benefits of co-op membership for female farmers. Female members in Lecoutere's (2017) study also benefited from increased knowledge of agricultural production, techniques, and access to improved inputs, specifically seeds, through membership. Additionally, Dohmwirth and Hanish (2019) found women in co-ops had a greater social connection and participatory roles in their community. They worked together to solicit change (specifically regarding an issue with alcohol in the village), but it was limited to cooperatives with higher social cohesion due to caste singularity. The ILO (2015) also found women in co-ops gained more self-employment opportunities, were able to "perform new and more productive labor activities" and improved their community participation.

Alternatively, Indian female-only cooperatives with a presence of elite caste members had a negative impact on undereducated members' abilities to achieve personal autonomy, with one respondent citing specifically their inability to read and write (compared to the more educated elite caste members) as a hinderance to gaining personal autonomy (Dohmwirth & Hanish 2019). The cases in which female members gained more autonomy (through

positions as co-op presidents or secretaries), patronage (relation to a male official) played a large role, which adds a valuable dimension to the knowledge about co-ed cooperatives (Dohmwirth & Hanish 2019).

The ENPARD Georgia cooperatives were established in 2014, and the short time of their existence is believed to impact the ability of the cooperatives to make broader macro-level changes at the time of the study in September 2018.

6.2 Rates of Active Participation

The challenges of entry for women into cooperatives may reveal the reason their levels of participation are higher than their male counterparts in all categories and the lack of passive female participants altogether. MUSCCO had similar results and found female members were more likely to pay back loans in full and on time and were more favorable to working in groups than their male counterparts (Vicari and Borda-Rodriguez 2014). The same study also found that the success of the Malawi credit unions hinged largely on the presence of women but added that female members must be trained on financial literacy and the barriers of entry (e.g., collateral) must be lowered for disadvantaged women to have access (Vicari and Borda-Rodriguez 2014). Jenderedjian & Bellows (2021) found in their study of the gender structures of NGOs in Armenia and Georgia, women “were more open to experiment, more willing to learn, and more involved in tedious and time-consuming activities that did not promise immediate economic success.” Specifically in rural Georgia, one female NGO noted: “Women are really interested and very active. Men... I am not sure... some are passive, some are active” (Jenderedjian & Bellows 2021). While the respondents to the Georgia and Armenia study upheld that men should be in traditional patriarchal roles that protect and provide for the family, many of the ongoing NGO projects had to take on female participants because the rural men were not interested in collective action, despite the vulnerability that working alone brings in rural environments (Jenderedjian & Bellows 2021).

The 20% passive participation rate among men may reveal a higher degree of freedom with which to sell their produce outside of the agri co-op, coupled with their higher variance in

their number of other farming associations, since male members showed higher social capital capabilities. The 0% rate of passive female participation may point positively to a lack of female members in-name-only to meet quotas for external funding.

6.3 Determinants of Female Cooperative Membership

Women in the farming sector longer may have been less likely to join co-ops due to already established supply and value chains for marketing, processing, and inputs from their many years in the industry. They may not see a benefit from joining, especially considering Georgia's communist past. In similar research of ENPARD Georgia co-ops, Ahado et al. (2021) uncovered that the age of the farmer had a negative effect on membership; they linked it to the negative perception of agri co-ops due to the history of *kolkhozy*. The local informant agreed that the older generation is still very reluctant to join, but on the day of the interview, he "had a meeting with young farmers and the mentality is becoming more pro-cooperative for services like bulk purchase, and achieving economies of scale, but it will be another 30 years before any major changes are detected."

Regarding increases in education reducing the odds of joining a co-op, women in general tend to have a greater variety of income streams and devote their time more dividedly across several jobs, even within agriculture by producing a variety of crops; women with higher formal education may be even less likely to rely on a single crop for agricultural income and may be more likely to have "formal labor opportunities" (Duguid & Weber 2016). Ahado et al. (2021) also discovered new co-op members in Georgia with higher education had a lower farm revenue, which may point to the farmers using agriculture as a secondary income and may also explain the negative relationship between education and membership. The same study also linked the negative relationship of education with the 1990s trend of highly educated individuals being forced out of their professional industries and back into agriculture while Georgia experienced high amounts of turmoil from the fallout of the Soviet Union's collapse.

Women from larger families most likely have more unpaid domestic labor to attend to first before they can prioritize, or even consider, improving their agricultural outcomes with co-

op membership. This result remains consistent across the many studies on the relationship between women, cooperatives, and domestic labor (Majurin 2012; Lecoutere 2017; Meier zu Selhausen 2015).

The increased likelihood of participation due to distance from the market is possibly due to the higher perceived value of co-ops to organize the transportation of agricultural outputs to processing centers, laboratories for quality certificate testing, and larger markets (Gava et al. 2021; Meier zu Selhausen 2015).

6.4 Perspectives of Female Cooperative Members on Cooperative Joining and Membership

Financial and production requirements were barriers for women entering cooperatives; as mentioned in other studies on female co-op members in Kenya, Tanzania, and Uganda, which cite unequal access to agricultural resources as an obstacle specific to women (Majurin 2012). Barriers to membership are an important aspect to measure, as women's decreased access to, and control over, resources play an important part in patriarchal economic structures (Norton 2004). However, as seen in Section 5.6, female non-members did not see the requirements as difficult barriers to entry.

Regarding the low profits, although Ferguson and Kepe (2011) warn against using economic success as the sole indicator of cooperative success, it is undoubtedly important for female farmers, as it contributes to their economic independence and overall standard of living for their households (Po & Hickey 2020; Vicari & Borda-Rodriguez 2014). The difficulties of meeting quality requirements and profitable scales of production are seen throughout modern agricultural markets, and smallholder farmers are price-takers (Reardon et al. 2005). Georgian hazelnut producers had a particularly difficult time achieving economic success and security during the time of data collection. Between 2015 and 2018, Georgian hazelnut export values fell 66% due to inconsistent quality and supply; these post-harvest losses on plantations and storage facilities were caused by the invasion of an insect (*Halyomorpha halys*, commonly known as the Brown Marmorated or Asian Stink Bug) and various fungi to which European hazelnuts are susceptible (Agenda Georgia

2019; Ahado et al. 2021). The local informant concurred that the 2015-2018 infestation of the Asian Stink Bug and fungi on hazelnut drying and storage facilities “had huge economic impacts on profits for smallholder farmers,” which is most likely the source of the financial trouble the co-op members mentioned. They told us that the effects of the hazelnut insect infestation unfortunately did not stay just within the hazelnut industry, but that “One major issue with the overuse of pesticides in attempts to stop the Asian Stink Bug was that these pesticides also kill honeybees, so honey exports and profits were also affected.” They continued that “due to flooding of cheaper Chinese honey to the Georgian market, in combination with Georgians’ reluctance to buy local honey due to quality control issues during communism, the local honey markets are suffering from all angles.” Improving the economic outlook for honey farmers will take a national effort to reduce the infestation with solutions that do not also threaten honeybees, which is elaborated on in Section 6.8.

Regarding the social impacts of cooperatives on Georgian women, these results are consistent with other studies on the overall positive social benefits of cooperatives for women (Ferguson & Kepe 2011). Dohmwirth and Hanisch (2019) conducted research comparing sex-segregation, caste-homogeneity, and the absence of elite (wealthy, land-owning) control in meetings in India and found no correlation between sex-segregated meetings and increased participation of female members. However, having elites in leadership positions and multiple castes at meetings negatively affected female members’ participation. This coincides with the Georgian respondents’ negative leanings about sex-segregated cooperative meetings.

6.5 Perspectives of Female Cooperative Members on the Roles of Family and Gender

Family and social capital clearly play an important role in Georgian and rural society and warranted further research into the family ties visible in cooperative structures. Meier zu Selhausen’s (2015) research with West Ugandan coffee farmers also found family ties in co-ops and found that when both husband and wife were members, they were more likely

to use the co-op's marketing schemes. Further research may uncover the Georgian respondents' exact meaning of these claims when they answered generally positively about the importance of cooperative members being of the same gender but disagreed that it was crucial both genders be in leadership. Jenderedjian & Bellows' (2021) study found Georgian men and women support some aspects of traditional gender roles, which may add some context to the women's answers, especially regarding leadership. One limitation of the survey was not specifying if respondents meant whether men or women were the preferred gender of leadership, and if a more homogenous cooperative would be preferable. Women may also have interpreted the question under the context that, as women with husbands (and other possible relatives) as members of the same cooperative, only one household member would need to be present for the votes and opinions of the whole household to be represented at meetings, and therefore, the gender of the member or leader within the household would be insignificant. In Duguid and Weber's (2016) literature review, women-led cooperatives in Turkey were unique because they used grassroots-style organization and approached membership, leadership, and governance similarly to a start-up. Differences in male and female leadership styles may be evident to the survey respondents; however, this is only an assumption. Time constraints on women to be in leadership due to the double shift of labor, alongside the cultural expectation for men to be in provider roles may also reveal why women didn't feel leadership needed both genders involved (Jenderedjian & Bellows 2021). The age of respondents may also play a role: the mean age of female cooperative members was 49 years, and another research opportunity could investigate if a younger respondent pool would answer differently, with the questionnaire option to give more precise reasoning.

6.6 Perspectives of Female Non-Members on Cooperatives

The preference to work alone, along with the lack of trust, may be related to the lower levels of "bridging" capital in Georgia (and other post-Soviet countries), which refers to a social group's willingness to trust and cooperate with groups outside of their immediate social or kinship unit (Ahado et al. 2021). In the opinion of the key informant from the

Georgian Ministry of Agriculture, this is consistent with the older farmers' concerns and negative perceptions of collective action.

6.7 Policy Recommendations

The higher participation of women in the newly formed groups was encouraged by the strategies taken by development NGOs that implemented their projects within the ENPARD program. They all aimed at a minimum quota of female members and minimum shares of female farmers in leadership positions as a pre-condition for granting external support. Similar priorities can also be recommended to formal institutions like the Georgian Ministry of Agriculture and its agencies to support the cooperative movement after the ENPARD model. However, organizations should exercise caution and have controls that prevent cooperatives from having female members in name only for external benefits, while not actually having active female members. Given this study's results, ENPARD Georgia does not currently have a problem with inactive female membership, but as the conditions change, this should be monitored. The International Labor Organization (ILO) (2015) cautions against using top-down government interventions but emphasizes the role that governments play in securing equal rights for women through functioning legal frameworks, granting opportunities for investments, and revising co-op rules to remove barriers of entry for disadvantaged women.

Widespread regional developments to benefit women would be nearly impossible to implement and measure the results of within the short period of this study and they remain unknown until further research is conducted. However, some recommendations for improving women's standings within co-ops include supporting female leadership representatives, especially when considering the timing of meetings and trainings to coincide with a woman's domestic labor schedule and demands. For co-ops in which both husband and wife are involved, we recommend having wives present at the meetings to represent their family's votes either alongside their husband or alone, thus preventing a situation in which the husband is using his and his wife's votes without her input.

Regarding current national policies on agri co-ops, the key informant said “there is a lot of government support for agricultural development projects, mechanization, new techniques, subsidizing interest rates, and micro-crediting. Georgia is quite open to agri co-ops, the only problem is how slow everything is.” He said ENPARD is one of the more successful projects in Georgian agriculture, specifically in making the National Food Agency set better quality control rules. The Georgian government has made statements that agriculture is one of its key areas for development as the industry with 52% of its labor force, but the biggest hinderances appear to be its inefficiencies in its economies of scale and the value chain (FAO 2021; International Trade Administration 2022; World Bank Group 2017). Further research and financial emphasis on streamlining these processes have the potential to improve financial outlooks for farmers and improve the country’s position as an agri-exporter.

6.8 Recommendations for Further Research

While this study has uncovered valuable insights to close the knowledge gaps in the structure of agricultural cooperatives as they relate to women’s empowerment, we have left many other avenues for future researchers to explore. Georgia is most likely going to continue to be on the EU’s radar as a key non-EU trading partner, and eventually as a possible candidate for EU membership (European Commission and Eastern Partnership 2022; International Trade Administration 2022). Further research into the roles of cooperatives, women, and trade will play a key role in determining Georgia’s future, especially because improving women’s equality is high on the EU’s list of demands for potential member states and has evidence for increasing the standard of living for all (European Council 2022; Norton 2004).

Among female members, more than half of women had their spouse, and in most cases also other family members, alongside them in the co-op, and most reported that their family contributed to their active participation. This opens topics for follow-up research focusing on the role of the family on the individual as well as collective performance and resulting benefits within the cooperative.

The local informant works specifically with co-ops and farming associations growing hazelnuts for export. In their work with USAID and G-HIP, their team developed eight new drying and storage centers, mainly in the regions of Kakheti and Guria to combat this problem. One problem for farmers was their method of drying by pouring the hazelnuts into the yards to be dried by the sun. Normally this method is adequate, but heavier rains than usual during the harvest season, for several years in a row, were an excellent breeding ground for the fungi and insects. The drying centers were built in direct response to this infestation. USAID's aim is to improve the scales of production and food safety. These facilities dry the hazelnuts faster and in a more controlled environment. This would ensure a high quality of product for export to the US and EU. This labor-saving industrialization project could improve hazelnut cooperatives' bargaining power and economies of scale and be a valuable research opportunity. It could also have a positive impact on the apiculture industry, since the pesticides used to kill the Asian Stink Bug also kill honeybees, as discussed in Section 6.4.

The key informant also enlightened us about a new development project with a lot of potential. In August 2022, USAID introduced an initiative for traceability passports under the G-HIP and GHGA (Georgia Hazelnut Growers Association). This technology would allow anyone along the supply chain to trace the products all the way back to the farm from which they were harvested. This would improve the odds of catching quality control problems early, tracing the spread of disease, and enhance the confidence of the overseas market for Georgian agricultural goods. The initial tests of the technology were done by some smallholder farmers using it to trace their product all the way from the fields to their destination. They said this initiative is not in response to any upcoming or current law (foreign or domestic), nor from customer demand, but is an effort to get ahead of any future problems after seeing the devastation the hazelnut market had from these insect and fungi outbreaks of 2015-2018. Traceability passports in combination with the new drying facilities should improve hazelnut farmers' resilience to changes in climate and improve their finances. Both projects should be on any upcoming researcher's radar on work being done to improve the economic success and security of co-ops and this region's agricultural presence abroad.

6.9 Study Limitations

The young age of the co-ops (3 years) is the biggest hindrance to uncovering more detailed information about their impact on women's empowerment and broader financial impacts; for example, similar trends may be found in Georgia as in Meier zu Selhausen's (2015) study in Uganda, which found for every added year as members, farmers sold 6% more of their produce through the cooperative (versus local sales).

The data had several limitations. Participants in only 15% of the ENPARD co-ops were surveyed, and they had to have at least 3 years of records to make comparisons from 2014-2017. Incomplete or informal financial recordkeeping may have skewed the results, and there was an unwillingness or unpreparedness by many farmers to participate. The members and non-members of cooperatives were from the same regions, so spill-over effects from members to non-members may have been present, but not detected.

Questions were translated from English to Georgian, and the answers were translated back into English for the analysis, which may have led to misunderstandings despite the employment of trained and experienced enumerators of both sexes.

For questions such as "What is your total land holding?" female respondents may have referred to land in their husband's name and may not reflect true rates of female land ownership. To measure concepts like female equality and empowerment, the internal elements of confidence, self-esteem, and general outlook on life are taken into consideration alongside concrete, measurable indicators such as financial gains, access to credit, and the power to make household-level decisions. However, due to the subjective nature of many of the questions, researchers cannot make definitive statements about the reality of some of these situations.

7. Conclusion

This research sought to explore the effectiveness of cooperatives' organizational structures for encouraging and supporting women's empowerment in a Georgian context. Within a

comparison of female members and non-members, the results showed micro- and meso-level changes to the environment in which women operate and express their economic and personal empowerment.

The significant empowerment of female members was proven in the Personal dimension through better access to agricultural inputs of higher qualities and lower prices, decreased time dedicated to marketing of their produce contributing to higher economic independence, increased knowledge about the support for cooperatives, increased training opportunities, and increased access to processing of their produce.

In the Relational dimension, empowerment was proven in personal autonomy, power in markets and increased social capital.

Within the Environmental dimension, women in cooperatives showed significantly higher access to extension services. However, more time is needed to measure the long-term stability of the macro-level changes.

Our study further revealed that women with a secondary education, living in bigger families and being involved in the farming of the main product for a longer time were less likely to become members. We framed these findings within the context of the history Georgian farmers have with *kolkhozy* and the transformation of the agricultural sector after the 1990s. Women on distant farms were more likely to become members due to their challenges in accessing bigger markets and processing centers. Most female respondents had to fulfill the requirements for entrance into the cooperative in terms of cultivated land size, membership fees, and/or volume of produce. These requirements might be perceived as barriers for women to join.

Female members still faced some challenges related to lack of profit, access to bigger markets and meeting the quality requirements of their products. We recognize the difficult period hazelnut producers experienced in the years leading up to the data collection due to insect and fungi infestations. On the other hand, one third of women perceived no challenges at all. Female members recognized improvement in their socio (economic) capital in the form of sharing their perspectives in the cooperative, decreasing their

dependency on their spouse's income, and improving their social capital with other female farmers. More than half of the interviewed women had their spouse, and in most cases also other family members, alongside them in the co-op. These women mostly reported that their family contributed to their active participation. This opens topics for follow-up research focusing on bonding social capital, the role of the family on the individual as well as collective performance and resulting group success. In addition, this is considering results that all female members were participating in at least one important aspect of cooperative membership, while 20% of men were classified as passive.

This study has made valuable contributions to the conversation about the structure of agricultural cooperatives as tools of empowerment for women, and the benefits women's active participation brings to the economy and society. It has dissected the historical, institutional, cultural, and economic factors that shape women's decisions regarding ENPARD Georgia cooperatives. Overall, the results have underlined the importance of female participation in agribusiness and gives researchers a basis with which to conduct further interdisciplinary studies in Georgia.

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