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AgriSciences**

**Women's Empowerment
through Agricultural Cooperatives in Zambia**

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Declaration

I hereby declare that I have done this thesis entitled **“Women’s Empowerment through Agricultural Cooperative in Zambia”** independently, all texts in this thesis are original, and all the sources have been quoted and acknowledged by means of complete references and according to the Citation rules of the FTA.

In Prague, May 15, 2020

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Anna Beránková

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Abstract

All the African countries except Namibia, Rwanda and South Africa are struggling with policy implementation towards the achievement of Goal 5 of the Sustainable Development Goals established by the UN. The last UN report (2019) shows slow progression and major or significant challenges with regards to gender equality, the deficiency of which is also visible because of the deeply rooted historical and cultural context. This survey investigated the current situation of agricultural cooperatives in the Western and Central Province in Zambia with a focus on membership benefits, view of female participation, entry conditions into the cooperative, and the perception of women's empowerment. A questionnaire survey was conducted among 272 cooperative members. 147 respondents were from cooperatives supported by Caritas Czech Republic through various trainings. This fact was further confirmed by the results where there was a significant difference between the supported members and non-supported members in terms of membership benefits. In addition to the questionnaire survey, several focus group discussions were conducted, and the responses are quoted in the thesis based on the specific objective.

It was discovered that cooperatives bring social and economic benefits to their members. Most of the respondents also did not face any difficulties in meeting the entry conditions into the cooperative, however, one fifth of female members and one fifth of male members were confronted with financial entry conditions. It was not proved nor rejected that women are not discriminated by the entry conditions into a cooperative based on gender. Nevertheless, both target groups based on gender strongly agree with the presence of women in leadership positions and find it beneficial. The last part is related to the empowerment perception where female and male respondents were marked in the same interval of medium and high level of empowerment perception. As such, it can be considered that cooperative membership has an impact on empowerment perception of both genders.

Key words: gender equality, gender equity, agricultural cooperatives, benefits of membership, women's leadership, women's empowerment, Zambia, SDGs

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List of Abbreviation

AVEGA	Association of Genocide Widows
CCR	Caritas Czech Republic
CZU	Czech University of Life Sciences in Prague
FAO	Food and Agriculture Organization of the United Nations
FGD/FGDs	Focus Group Discussion/s
FTA	Faculty of Tropical AgriSciences
GSI	Gender Status Index
ICA	International Co-operative Alliance
ILO	International Labour Organization
SDGs	Sustainable Development Goals
SSA	Sub-Saharan Africa
UN	United Nations
UN ECA	United Nations Economic Commission for Africa
UN Women	United Nation Entity for Gender Equality and Empowerment of women
WAS	Weighted Average Score
WE	Women's Empowerment
WEAI	Women's Empowerment in Agriculture Index
WFP	United Nations World Food Programme

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1. Introduction

In 2015, the Sustainable Development Goals (SDGs) were adopted by all United Nations state members. The agenda contains 17 goals and leads to global partnership in solving a worldwide crisis.

The fifth SDG of achieving gender equality is an obstacle especially in the Third World where almost five years after the implementation of SDGs the improvements are questionable. Although 20 African countries, with Rwanda in the leading position, have reached a higher percentage of seats held by women in the National Parliament than is the world average, most of the African countries belong to the group entitled *Middle of the Pack*. This group contains 21 countries: Angola, Benin, Cameroon, Comoros, Republic of the Congo, Côte d'Ivoire, Djibouti, Ethiopia, Gabon, The Gambia, Guinea-Bissau, Madagascar, Malawi, Mozambique, Nigeria, Senegal, Tanzania, Togo, Uganda, Zambia, and Zimbabwe (SDG Center for Africa 2019). These countries have managed to progress in achieving responsible production and consumption and in their ability to adapt to climate change. However, they still suffer from a high level of poverty and inequality. Zambia faces significant challenges and manages to make only moderate improvements towards gender equality.

More than half of the Zambian population live below the poverty line and malnutrition is one of the highest in the world (WFP 2018). The country suffers from severe droughts, which damage agricultural production. However, if the country wants to achieve food security, it needs to adapt to the climate change. Most of the citizens work in agriculture and they are dependent on rain to irrigate their fields (Republic of Zambia 2018). In order for farming to be more effective, farmers are grouped into cooperatives. The Government of Zambia supports this initiative because farmers are more coordinated in larger groups and it is thus easier to connect with them and provide them with extension services and inputs in the form of seeds or fertilizers (Ntalasha 2016).

Cooperative members are usually poor farmers who can survive on their own only with great difficulty, therefore they create cooperatives and gain support from the outside. However, in their study, Bijman and Wijers (2019) note that cooperatives do

not include the poorest farmers. They claim that cooperatives have a typical process of development, where at the beginning all the new members are very welcomed, and the cooperative is social-oriented with a focus on solidarity. After a being on the market for a while, the cooperative adjusts to its members and other actors in the market and the focus is slowly turned from solidarity to the market and its effectiveness. After this, the cooperative restricts the entry into the cooperative and finally completely limits the possibility of accepting new members.

In Zambia, most people are farmers and are associated with mixed or female-only cooperatives. Through the cooperation of female and male members inside the cooperative community, people are led to work together and this process can contribute to gender equality. Women are more often present in leadership positions and their involvement has an impact on poverty reduction (ILO 2015). Therefore, this thesis is focused on cooperative membership in terms of what benefits can members gain from the membership, what are the entry conditions into the cooperative with the consideration of potential female discrimination, what is the view of women and men on female participation in cooperatives, and how can membership contribute to women's empowerment.

2. Literature Review

In today's world, women are often responsible for the same roles as they were in the past. They take care of the household and children and may even work the same as their husbands do, but they are not treated equally. In the modern world of globalization where everyone has the same rights, which are not limited by nation, religion or gender, gender inequality or discrimination of women has no place. This hot topic is no longer taboo and therefore the first chapter of this thesis is dedicated to the topic of gender equality and gender equity. In the next two chapters there is focus on women's empowerment and different ways of its measurement. Furthermore, other chapters are focused on women's position in the society and agricultural cooperatives within the Sub-Saharan context and in Zambia, in particular. Last two chapters deal with the benefits that members and especially women can get from membership in agricultural cooperative.

2.1. Gender Equality and Gender Equity

Gender equality is a value that has been addressed for decades, but gender equity is a more recent issue. Gender equity also includes looking back in history and closing the gaps between women and men, girls and boys and to amending the historical crimes and injuries of the past (Binagwaho 2020). According to UN Women (2011) and UNICEF (2017), gender equity means that: "*women and men are treated fairly according to their respective needs*". In the development context, a gender equity goal often requires built-in measures to compensate for the historical and social disadvantages of women.

According to UNFPA (2005), gender equity leads to gender equality. The term gender equality is denoted as: "*an ideal state in which women and men are free to develop their personal abilities and make choices without the limitations set by stereotypes, rigid gender roles, or prejudices*" (UN Women 2011). They would have equal conditions, treatment and opportunities for realizing their full potential and their needs will be considered with the recognition of the differences among those groups (UNICEF 2017).

In 2015, leaders of the world engaged to achieve the agenda of Sustainable Development Goals (SDGs) by 2030. SDGs are composed of 17 goals and it is a follow-up to the Millennium Development Goals. To achieve gender equality and empower all women and girls is the fifth goal (UN 2015). One of the targets leading to this goal includes ending all forms of discrimination against women and girls, eliminating violence, forced marriage, genital mutilation, value unpaid domestic work, ensuring equal opportunities for leadership and others as described in the Table below (UN 2017). The targets and indicators are described in greater detail in Table 1. This study addresses the first target in the question of discrimination against women when entering into the cooperative as well as the fifth target dealing with the leadership opportunities for women at the cooperative level (marked in yellow in Table 1).

Table 1. SDG5 - Gender Equality: Targets and Indicators (UN 2011)

Goal: Achieve gender equality and empower all women and girls	
Targets:	Indicators:
No discrimination ^a	Whether or not legal frameworks are in place to promote, enforce and monitor equality and non-discrimination on the basis of sex
No violence in any form including trafficking and sexual abuse	Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence
Eliminate all harmful practices (forced marriage and female genital mutilation)	Proportion of women aged 20–24 years who were married or in a union before age 15 and before age 18 Proportion of girls and women aged 15–49 years who have undergone female genital mutilation/cutting, by age
Recognize and value unpaid care and domestic work	Proportion of time spent on unpaid domestic and care work, by sex, age and location
Ensure effective participation and equal opportunities for leadership ^a	Proportion of seats held by women in (a) national parliaments and (b) local governments Proportion of women in managerial positions
Ensure universal access to sexual and reproductive health and reproductive rights	Proportion of women aged 15–49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care

	Number of countries with laws and regulations that guarantee full and equal access to women and men aged 15 years and older to sexual and reproductive health care, information and education
Undertake reforms to give women equal rights to economic resources (ownership of land or inheritance)	(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure
Enhance the use of enabling technology to promote the empowerment of women	Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
Adopt and strengthen policies and legislation for the promotion of gender equality and the empowerment	Proportion of individuals who own a mobile telephone, by sex
	Proportion of countries with systems to track and make public allocations for gender equality and women's empowerment

^a The highlighted targets are touched on through the second, third and fourth specific objectives of this study.

2.1.1. Women's Empowerment

One definition describes empowerment as having control over the decisions and issues that affect one's life (UNESCO 2000). More specifically, it means that girls and women are able to take control of their destiny in terms of getting access to resources and to managing them, increasing self-esteem, building the capacity to use the rights, opportunities and making strategic decisions (UNICEF 2017). The major trigger event for women's empowerment at the world level was the Fourth World Conference on Women in Beijing in September 1995. Since that time, the principle outcome of the Beijing declaration has been referred to the process of achieving gender equality, women's empowerment and ensuring human rights for this vulnerable group. The Platform for Action concretely covers 12 areas for improvement: poverty, education and training, health, violence, armed conflict, economy, power and decision-making, institutional mechanisms, human rights, media, environment, and the girl child. After twenty years, the situation improved, although the progress was very slow and uneven, but no country had achieved gender equality and the critical areas were still unresolved (UN Women 2014). The issue of gender equality is embedded in the SDGs from 2015 as well and should be reached by 2030 (UN 2015).

According to UN Women (2011), there are seven principles of women's empowerment as stated below:

1. Establish high-level corporate leadership for gender equality.
2. Treat all women and men fairly at work – respect and support human rights and non-discrimination.
3. Ensure the health, safety and well-being of all female and male workers.
4. Promote education, training and professional development for women.
5. Implement enterprise development, supply chain and marketing practices that empower women.
6. Promote equality through community initiatives and advocacy.
7. Measure and publicly report on progress to achieve gender equality.

2.1.2. Measurement of Women's Empowerment

The term “women's empowerment” (often abbreviated as WE) is very complex and there is no unified approach of measuring this dynamic value. In this section, several methods of how to measure WE are described. Because of its complexity, WE measurement should always be considered in relation to the area within its cultural and social context (Kabeer 1999).

In order to achieve gender equality and empower all women and girls in Africa, the Economic Commission for Africa and African Governments implemented policies to ensure this goal will be achieved, as a result the **African Gender and Development Index** was established in 2004. This index consists of the **Gender Status Index (GSI)**, which addresses three areas – economic, social and political – and the **African Women's Progress Scoreboard**, which includes the same areas as GSI as well as women's rights (UN ECA 2017). Other approaches often include other areas in addition to the three basic areas described by GSI, such as familial/interpersonal, legal and psychological dimensions (Malhotra & Schuler 2002) or legal and cultural dimensions (Masabo 2015). In some cases though, the cultural aspect is considered together with the social aspect (Malhotra & Schuler 2002).

Women's empowerment is also measured on different levels at the household level, community and broader level (Malhotra & Schuler 2002), which is very similar to the approach defined by Oxfam (Oxfam GB 2017). As Kabeer (1999) wrote in her

study:” *People can be empowered only if they used to be dis-empowered.*”, which means that there is a change in the behaviour of empowered individuals. Change in three dimensions – personal change, relational change and environmental change, where all three dimensions affect each other (Oxfam GB et al. 2017).

Three other dimensions were described by Kabeer (1999), noting that women’s empowerment is measured in terms of resources, agency and achievements. Resources include economic or material as well social and human resources, agency is mostly connected with the ability to make strategic decisions, and achievements are measured by well-being outcomes. Agency can be furthermore divided into intrinsic, instrumental and collective (Yount et al. 2019). Other modified models can be found for example in the combination of resources with intrinsic and instrumental agency, with consideration of SDGs for cross-country comparisons (Miedema et al. 2018).

In agricultural context, the **Women’s Empowerment in Agriculture Index** (WEAI) can be used. In his study, Alkire (2013) described the structure of WEAI. It consists of two dimensions; the first one contains five agricultural domains such are: *“decisions about agricultural production, access to and decision-making power about productive resources, control of use of income, leadership in the community, and time allocation”*. The second dimension is measurement of gender parity in the household. Weights of these two dimensions are not the same. In calculation agricultural domains are for 90% and gender parity is for 10%.

The study by Sell and Minot (2018), focused on factors of women’s empowerment in Uganda among small scale farmers. The findings reveal that the older the couple was, the more empowered the woman was. Reversely, the mean education was not a significant variable, although it is still a contributor to women’s empowerment. Another statistically significant variable was the distance to the nearest flagged road. The further the distance was, the less empowered the woman was. This means that empowerment is significantly connected with geographic patterns such as local languages, different regions and their cultural differences.

2.2. Position of Rural Women in the Sub-Saharan African Context

Africa is labelled as an agricultural continent and approximately 65 to 80 % of African women farm food for their families and work on family field (Sheldon 2016). According to UN, only 50 per cent of women in the world are employed compared to 77 per cent of men. Women also receive 10 to 30 per cent less in wages than their male counterparts (UN Women 2015). Although more girls than ever are now being educated (Sheldon 2016), they still have less access to education and to financial institutions than men and they are viewed as dependents (ILO 2012). Berhane Ghebremichael (2013) wrote in his article: *“As women are generally the poorest of the poor and, at the same time, key actors in the development process, eliminating social, cultural, political, and economic discrimination against women is a prerequisite of eradicating poverty.”* Women have suffered from the lack of information, access to education and other values as gender inequality, which is more common in urban areas (Sell & Minot 2018). Due to the lack of access to financing, markets and knowledge and skills in marketing and management, women achieve lower productivity, they are not successful in market competitiveness (Duguid & Weber 2016) and their income is significantly lower than that of men (Sell & Minot 2018). These struggles are not connected only to the market but also to other parts of financial sector. Women suffer from constraints on land ownership or credit and saving services. Other constraints come from the social and cultural sector as a lack of leadership opportunities (Duguid & Weber 2016). Due to these issues, women are over-represented in the informal economy, doing unpaid labour as family care, family farming (ILO 2012) or less-skilled jobs, while more prominent positions are delegated to men (Matenga & Hichaambwa 2017).

Very often the position is set by the social and cultural norms of each country. These norms usually view the women’s role as domestic and reproductive, which increases the gender inequality and leads to the discrimination of women (Ferguson & Kepe 2011; Duguid & Weber 2016). Based on research conducted in Ethiopia, Kenya, Rwanda, Tanzania and Uganda, the mean age at first birth ranged from 18 years to 22 years and the age differential between wife and husband can reach eight years (Miedema et al. 2018). These differences are also seen in achieved schooling. Generally, men on average achieved a higher education; in Uganda the mean male

schooling is two grades higher than a women's degree (Miedema et al. 2018). Sometimes the local and cultural differences among small ethnic groups and tribes do not allow their members to get secondary education, for example those in Rwanda who belong to the Tutsi tribe (Masabo 2015). In Sub-Saharan countries, it is not unusual that women are beaten if they go out and do not tell their husband, if they neglect their child or if they burn the food (Chinwokwu & Arop 2018; Miedema et al. 2018).

From the historical point of view there is an example from Rwanda where the job opportunities for women were scarce because they did not use to be an active part of the labour market. Women used to be at home, taking care of the household and their small gardens. Before the genocide, most of the women in Rwanda were not involved in any income-earning activity. After the genocide, the situation changed but for low-skilled women there were no jobs available (Masabo 2015). In some cases, even if a female job applicant is more educated than a male candidate, she will not get the job position due to discrimination (Chinwokwu & Arop 2018).

Other external factors that affect a woman's ability to access fair employment include a lack of support or goodwill towards women who are collectively organising to overcome the challenges in the labour market; a lack of attention towards women's needs from all levels of government (municipal, regional, and federal); and a lack of attention and concrete support from coordinating agents or authorities (UN, governments, professional bodies, associations, etc.) to promote women and co-operatives in particular (Duguid & Weber 2016).

Although the policies on equality and equity in Nigeria are implemented in the way to achieve SDGs, the instability of the local government is slowing the progress, so the policies need to be strengthened and more supported (Hlebela & Mpehle 2020). It is noted that since 2012, NGOs and governments in Sub-Saharan Africa are more focused on gender than before (Annan et al. 2019). In Nigeria, the government is exhorted to legitimize the 35% Affirmative Action on Gender Parity as a first step to achieve pure gender equality. Additionally, the National Gender Policy plays a key role in promoting and establishing equality and fairness between men and women in the private and public sector (Chinwokwu & Arop 2018). In contrast, the government in Uganda failed to legitimize the law for gender equality. NGOs, civil society and donors initiate meetings with key persons such as the Ministry of justice, to encourage the

establishment of a network of smaller associations to promote gender equality and women's empowerment, using media or workshops to inform the wider society (Nabacwa 2001). In Rwanda, cooperatives are supported by the local government and the policy of promoting women in leadership positions seem to be working as well. Women are part of the decision-making process on the cooperative level and they are even more trusted than male members (Meador & O'Brien 2019).

2.3. Agricultural Cooperatives in Sub-Saharan Africa

A cooperative is defined by the International Cooperative Alliance's 2015 statement on the Cooperative identity (ICA 2015) as *“An autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through jointly owned and democratically controlled enterprises. Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity and solidarity.”*

The seven Co-operative ICA Principles are as follows:

1. Voluntary and open membership
2. Democratic member control
3. Member economic participation
4. Autonomy and independency
5. Education, training and information
6. Co-operation among co-operatives
7. Concern for community

Cooperatives as a way of a collective action and business are very widespread in Africa. In some countries such as Tanzania, Ethiopia or Zambia, the number of newly registered cooperatives per year can exceed 1000. In 2008, there were more than 24,000 cooperatives in Ethiopia, 16,133 cooperatives in Zambia but only 166 cooperatives in Botswana (Pollet 2009). According to last estimates from ICA (2020) about 40% of African households belong to cooperatives and in average seven people out of one hundred (including children and seniors) are cooperative members.

People usually become members of a cooperative because they are encouraged to by a neighbour or close friend. Many of them are also motivated to join the cooperative because of the access to inputs and sources or as a reaction to the country recovering from a serious civil conflict and scarcity of job opportunities (Masabo 2015).

Cooperatives have different forms of existence. In Uganda, an umbrella organisation called The Manyakabi Area Cooperative Enterprise was established. This organisation is responsible for smaller agricultural groups, where one cooperative has about nine thousand members and one group has 100 to 300 members (Lodiaga 2020). However, some cooperatives were established by an NGO or by the government. After the cooperatives are established, these stakeholders are involved in the additional support of the cooperative (Masabo 2015) or in its regulation to ensure transparency and international practices (Lodiaga 2020), or simply in providing central guidance and training for the members. If the support from an NGO is only for a short time, the cooperative can stop keeping the rules and habits developed by the NGO after it is no longer providing support (Tadesse et al. 2020).

Cooperatives are differently oriented. Usually they focus on agriculture (Ferguson & Kepe 2011; Abate et al. 2013), but for more female-oriented cooperatives, handicrafts such as jewellery making is typical (Masabo 2015). In addition, cooperatives can also be focused on credit services and be economic-oriented as well as provide input supply and marketing as it is in Nigeria (Abdulquadri & Mohammed 2012).

The number of female and male members vary with the area of the cooperative. In Uganda, it is quite typical that there are mostly female members in cooperatives (Ferguson & Kepe 2011). Additionally, 33 % of the board members are women and 13 % of the chairpersons are female members. However in Ethiopia, where the cooperatives have created about 2 million job opportunities, only 17 % of cooperative members are women (Lodiaga 2020).

2.3.1. Agricultural Cooperatives in Zambia

Zambia belongs to the least developed countries in the world. However there are two strong sectors – *agriculture and agro-processing sectors* - which are potentially the most important contributors to the country's growth (Lolajih 2009). As small-scale

farmers are not very effective, through cooperatives they can get access to fertilizers and improved seeds of maize, which increase their production (Blekking 2017).

The first cooperative in Zambia was established in 1914 by European settlers, therefore at the beginning, the cooperatives were limited to Europeans only. These cooperatives we spread throughout the Eastern, Southern, Central and Northern Provinces of Zambia and they were well-structured with agricultural and commercial sectors (Lolojih 2009).

In Zambia there are now registered more than 22,000 agricultural cooperatives. They are established by the Register of Cooperatives; registration requires at least ten members. The government supports cooperatives through extension services, which provide input supply or farming techniques. Cooperatives are also supported by NGOs such as World Vision and others (Mutambo 2017). The government appreciates the structure of cooperatives and perceives the importance of cooperatives in poverty reduction on a national level (Ntalasha 2016). The Ministry of Commerce, Trade and Industry and its Department of Cooperatives make citizens aware of the benefits that members of the cooperatives get from the membership. Those benefits lead to higher household income, food security and poverty reduction of cooperative members (Paos 2018).

The function of cooperatives is to distribute the inputs effectively and increase the agricultural production. However as a result, members are more focused on receiving inputs than on doing sales together, thus the effectiveness of the community is disappearing (Blekking 2017).

2.4. Benefits from Participation in Agricultural Cooperatives

According to the study by Ghebremichael (2013) we can summarize the benefits of coop members from their participation in the cooperative as follows: *“to improve security of tenure of land; to consolidate holdings; to promote conservation of natural resources; to facilitate land settlement; to foster the all-important growth and speed of technical knowledge for better farming; to secure savings and administer credit; to reduce the charges made for production requisites and use of the larger capital items for farm and small scale industrial production; to reduce charges for consumer goods*

and services including housing; to improve the marketing of farm products; to minimize risks and to lower the costs of insurance.” Ferguson (2011) in his study in Uganda divided the benefits from the membership in cooperative into two groups – economic and social.

The **economic benefits** include improved livelihood, higher yield and higher income, access to inputs such as seeds and fertilizers as well as access to new markets with better prices, which were previously not accessible (Tadesse et al. 2020), food security of households, market linkages, relations to traders and establishing contracts with large-scale buyers as World Food Programme (WFP), increased bargaining power, and getting better prices for their products (Ferguson & Kepe 2011). Some of the farmers were also able to move to a new house, cover school fees for their children or start own business (Tadesse et al. 2020). Market and business oriented cooperatives in Tanzania help reduce poverty, create new job opportunities and develop beneficial relations with new investors (Sumelius et al. 2015). Additionally, they provide access to financial and technical support from different institutions such as NGOs or other organisations (Tadesse et al. 2020).

The **social benefits** include the improvement of decision-making, additional education such as trainings (Tadesse et al. 2020), breaking out of isolation through the working together (Masabo 2015) and helping widows who are more economically vulnerable (Ferguson & Kepe 2011).

In terms of **technical efficiency**, there is a significant difference between members and non-members of cooperatives. Members are able to get better results in terms of outputs with support of inputs by at least 5 %. Technical efficiency significantly grows with the number of family members, with cultivated land size or application of improved seed. Despite the expectations, the household head literacy, usage of fertilizers and the number of cattle owned affect the efficiency only minimally (Abate et al. 2013).

2.4.1. Benefits from Participation in Agricultural Cooperatives for Women

Agricultural cooperatives are a chance for women to help close the gender gap, especially through accessing the rights for land ownership, providing additional education in business and management skills and allowing women to contribute in

decision-making, which increases their access to knowledge and information. This can increase the agricultural production and reduce the poverty (Duguid & Weber 2016). Looking at two principle groups of benefits, the detailed perks are elaborated below.

Economic benefits: Many women started their own businesses. Through the cooperative they were able to get a loan (Périlleux & Szafarz 2015) and build a house and rent rooms, or build a store and start a firewood business, sell jewellery on their own or just to increase their income (Rani & Yadeta 2016). Getting a loan from a bank is very difficult according to women (Masabo 2015). According to the study by Ghebremichael (2013) conducted in the city Mekelle (Ethiopia), one can observe clear benefits among the surveyed women who have joined the cooperatives - 67% were able to reduce their level of loan reduction and 92% were able to increase their income and after that become self-employed. For widows the cooperative very often means financial support and for other women it means independence from their spouse's income (Ferguson & Kepe 2011).

In Uganda there is a significant difference between female members and female non-members in terms of the reduction of food insecurity within households and reduction of basic need insecurity. In general, female members become economically empowered and the membership has a positive effect on their wellbeing. Female members also reported that their households get more sources of income than those of non-members (Lecoutere 2017).

Personal/Social benefits: Through the income and everyday work, women become more confident and have increased self-esteem, because they are able to send their children to school, pay fees for electricity, water and medical expenses. If their neighbours need help, they can support them with knowledge and finances. As one woman in Rwanda said (Masabo 2015): *“Who can help neighbours, he is strong and resourceful.”* These personal changes also change the community. Women from cooperatives are treated with respect because they have work, they help others and do not need to ask for support anymore (Masabo 2015). They find an open and friendly society within the cooperative, which ensures gender equality, creates new social contacts and enables women to feel free to share their needs (Rani & Yadeta 2016).

In Uganda, a coop membership also has a positive impact on female decision-making at different levels. In general, a cooperative membership has a greater impact on

women in terms of decision-making and their ability to influence decisions than for men. From the three different levels of decision-making, the smallest power women have is in household decisions and have greater power in groups and the wider community, but there is no effect on intra-household labour divisions (Lecoutere 2017).

Through the cooperative membership, women get access to resources, which make them more confident and powerful, and as Masabo (2015) notes: *“Membership changes women’s capacity to make strategic choices in their lives and increase their self-esteem and decision-making capabilities. Cooperatives are found to be a vehicle to start up that process but are not seen as universally effective method.”* It tells us that women’s empowerment is much more complex and it is more than simply income or training (Masabo 2015).

Women also gain agronomic knowledge and innovative farming techniques (Lecoutere 2017). The Association of Genocide Widows (AVEGA) in Rwanda provides additional education to its members. Women have possibilities to be trained in business, agriculture, taxes and savings or project management, which all help the women to start their own business. In the cooperative female members become part of the decision-making process on a cooperative level, they learn how the decisions are made and after that they are able to apply this skill in their personal lives on a household level (Masabo 2015).

There are also female-only cooperatives, which occur usually in patriarchal areas. It allows women to be welcome and heard, and to train their decision-making skills without being discriminated. However, they are not very effective in terms of solving women’s empowerment or gender equality issues. Usually those cooperatives struggle to get support from institutions, public or men in general (Duguid & Weber 2016). According to Ghebremichael (2013): *“Cooperatives would be more effective if: Policy and legal frameworks for cooperatives were more gender sensitive and supportive of women’s concerns.”*

One example of a successful women’s cooperative is from Tanzania from the Kilimanjaro region. Women became empowered, their households’ income increased, they can pay school fees and get access to medical services. They have been capacity-built through the access to information and knowledge and their social status has increased (Sumelius et al. 2015).

3. Aims of the Thesis

The main objective of this study is to understand the current situation of the gender issue, including the assessment of female members' participation perceived by men and women in agricultural cooperatives in the Western and Central Province of Zambia. The study focuses on agricultural cooperatives supported through the development project implemented by the NGO Caritas Czech Republic and other agricultural cooperatives not supported through the project in the study area.

The main objective will be achieved through the specific objectives stated below:

- I. to find out what kind of benefits women and men can gain from membership in the cooperative supported by Caritas Czech Republic and from membership in other non-supported cooperatives, and then to compare these four samples with each other.
- II. to find out the entry conditions of membership in agricultural cooperatives. To answer the question: Do women suffer from any kind of discrimination or entry barriers compared to men?
H₀: There are no differences between men and women in terms of entry conditions into the cooperative based on gender.
- III. to compare the view of male and female members on female participation in an agricultural cooperative.
- IV. to investigate how membership in agricultural cooperatives can raise women's empowerment.

4. Methodology

This thesis is based on research using quantitative and qualitative methods producing primary data, complemented by secondary data from previously published sources, which is used for the conceptual framework of the study. In this section, the process of data collection, target group sampling, target area and data analysis will be described. In the last part of this section, the limitations of the research will be presented.

The whole process of data collection is closely connected with the development project called *'Agribusiness for LIFE – Livelihoods, Innovation, Food and Empowerment'* implemented by Caritas Czech Republic (CCR) in cooperation with the Faculty of Tropical AgriSciences, Czech University of Lifesciences in Prague (CZU) in the Western and Central Province of Zambia. The project is funded by the Czech Development Agency and focuses on expanding the capacities of cooperatives to manage their businesses effectively and profitably. In total, 22 cooperatives and 125 medium-scale farmers are involved in this three-year project, which began in July 2018.

The agricultural cooperatives involved in the project are expected to benefit from the following project activities¹:

- Training in supporting female farmers to assume business management and leadership positions, training in business skills and mentoring with market assessment and market analysis, technical training and mentoring in selected value chains, and technical training in food processing technology;
- Financial grants for Best Business Plan;
- Improvement of access to market and financial services, and building connections between cooperatives and other organisations or the Government in order to gain other sources of support;
- Organisation of agricultural shows and other social events;
- Increasing awareness of balancing agri-business development with nutrition security and food safety.

¹ Adapted from the document - Logical Frame Matrix of Agribusiness for LIFE (CCR 2018)

To ensure the successful progress of this project, regular monitoring and evaluation is conducted by a third party, in this case by CZU and its employees from Faculty of AgriSciences (FTA). They are responsible for the monitoring and evaluation of this project, and interns of FTA are responsible for collecting the data for monitoring from members of agricultural cooperatives in this target area.

Therefore, the cooperation with CCR is often mentioned in the methodology particularly in the section *primary data collection*.

4.1. Secondary Data used for Literature review

As secondary data, literature sources from databases and scientific journals were used. Articles from scientific journals found through online databases such as Web of Science, Scopus, Google scholar and ScienceDirect. Reports and accurate demographic data were found on online databases from FAO, UN, ILO, UN Women, WFP and WB. However, the topic of women's empowerment suffers from scarcity of research, studies or other sources and even fewer sources are available on this topic for Africa.

The keywords used in searches were as follows: women's empowerment, agricultural cooperatives, Sub-Saharan Africa, gender equality, gender equity, SDGs and WE measurement.

4.2. Study site

As the study is closely linked with the monitoring activities of the *Agribusiness for LIFE* project, it was conducted in the Western Province of Zambia, namely in five districts - Mongu, Limulunga, Kaoma and Nkeyama in Western Province and Mumbwa in the Central province (Figure 1).



Figure 2 Map of Zambia, Western and Central Province (source: Author)

4.3. Target groups

Two different groups of respondents were chosen as a study sample. The criterion for the first group was for the respondent to be a member of agricultural cooperative receiving support from CCR. The criterion for the second group was for the respondent to be a member of agricultural cooperative that does not receive any support from CCR.

The cooperatives supported by CCR are involved in a project called *‘Agribusiness for LIFE – Livelihoods, Innovation, Food and Empowerment’*.

Respondents were conveniently chosen on the spot of data collection from the listed members of agricultural cooperatives.

Data was collected through field visits. The enumerators (including the author herself) and interpreters visited forty-four cooperatives with their members. For each visit, there were three to four enumerators including the field officer. For each district, there was one responsible field officer. Two field officers responsible for Limulunga and Mongu were from the city Mongu, the main CCR office in Western Province. Another two field officers were from Kaoma CCR office, one officer being responsible

for Kaoma and one for Nkeyema. The last field officer responsible for Mumbwa came from the CCR office in Mumbwa in the Central Province. The interpreters were employees of the Ministry of Agriculture. For each visit there were two to three interpreters from the Ministry of Agriculture and they changed in every district.

Enumerators visited about 44 cooperatives on their address. In each cooperative the enumerators interviewed on average seven people. In total, 272 members from 44 different cooperatives were interviewed; 147 respondents from 22 cooperatives supported by CCR and 125 respondents from 22 other cooperatives.

Table 2. List of interviewed cooperatives

List of interviewed cooperatives:	District:	Total No of members / No of female members (N – not known)	Supported by CCR	No of respondents / No of female respondents	Main product
Aluyeni	Limulunga	34/21	yes	4/3	maize
Food security	Mumbwa	N	no	4/2	maize
Halukatali	Kaoma	N	no	6/4	maize
Chikanda MPC	Mumbwa	52/24	yes	7/5	maize
Ilundu	Limulunga	35/18	yes	9/0	rice
Kalale	Nkeyema	67/35	yes	7/4	maize
Kanatebe	Nkeyema	120/69	yes	6/4	maize
Katoka	Mumbwa	N	no	1/1	maize
Katongo	Mongu	35/18	yes	6/3	rice
Kayayamisa	Kaoma	N	no	6/2	maize
Kozo	Kaoma	35/16	yes	5/3	rice
Liseli	Nkeyema	116/64	yes	6/3	maize
Lumuno	Mumbwa	N	no	2/2	maize
Malombe	Mumbwa	N	yes	11/7	maize
Manambinyi MPC	Limulunga	30/16	no	1/0	rice
Masupanzila	Mongu	25/25	yes	5/5	rice
Matala	Mumbwa	34/19	yes	8/4	maize
Mayemo	Kaoma	54/24	yes	6/5	maize
Mulamatila	Kaoma	53/33	yes	9/6	maize
East Mutuwana	Kaoma	204/98	yes	12/6	maize
Mwanambinyi youth MPC	Limulunga	35/16	yes	6/3	rice

Nakalembe	Limulunga	21/15	yes	8/4	rice
Nakamwe	Limulunga	32/12	yes	6/2	rice
Nakato	Mongu	35/15	yes	9/5	rice
Namalao	Mongu	N	no	6/3	rice
Namilange	Nkeyema	N	no	5/2	maize
Nang'oko	Limulunga	N	no	3/1	rice
Nil	Mumbwa	N	no	4/2	maize
Nkeyema evergreen	Nkeyema	N	no	6/2	maize
Omunumbua	Limulunga	N	no	3/0	rice
Sichoncho	Kaoma	N	no	13/9	maize
Simunawa	Mumbwa	N	no	3/3	maize
Sichoncho East	Kaoma	N	no	6/3	maize
Soopu	Limulunga	N	no	8/4	cassava
Tematema	Nkeyema	N	no	7/4	maize
Toapinga	Mumbwa	N	yes	3/2	maize
Tukongote	Limulunga	35/20	yes	6/2	maize
Tuliyakileni	Kaoma	N	no	8/4	maize
Tusole	Nkeyema	N	no	7/4	maize
Twalumba	Mumbwa	N	no	5/1	maize
Twapenga	Mumbwa	N	yes	4/2	maize
Umunumbwa	Limulunga	N	no	3/3	rice
Winela	Mongu	N	no	18/11	rice
Zuho	Mongu	40/18	yes	4/1	rice

4.4. Tools for Primary Data Collection

Primary data was collected through the questionnaire survey and focus group discussions. The questionnaires were collected from cooperative members in the Western and Central Provinces of Zambia by CCR field officers responsible for the respective districts with two to three interpreters from Ministry of Agriculture and by three trained interns from FTA CZU in August and September 2019. The responses were collected through the mobile application NestForms² on mobile phones and on a tablet.

² <https://www.nestforms.com/>

The questionnaire was pilot-tested with a sample of 10 farmers; the results of which are not included in the research. Several questions were edited to be more comprehensive for the respondents and for recording.

The questionnaire (Appendix I) was structured into nine parts (Table 3), which include: socio-demographic characteristics, economic benefits, social benefits, voluntary and open membership, and democratic member control. Aside from the first part, the others were developed according to ICA principles described in the Chapter 2.3.

Each part includes several statements and the respondents were asked to evaluate these statements by using a five-point Likert scale. The Likert scale is a commonly used method in questionnaire survey. It is a one-dimensional method which was developed in 1932 (Rod 2012). This method was chosen because respondents can express their level of agreement with the statement very simply and specifically. In this study, five choices for measuring the respondent's agreement with the statement were applied (1-5 referring to: strongly agree, partly agree, neither agree nor disagree, partly disagree, strongly disagree).

Table 3. Structure of the questionnaire

Questionnaire Part	Variable	Number of questions/statements
Socio-demographic characteristics	Age of respondent Education GPS Name of province, ward, cooperative Membership Main product Total landholding Distance to the nearest market	15
Economic benefits from the membership in Agri-cooperatives	Market access Inputs Technology Revenue Yield Income Access to credit and saving services	20
Social benefits from the membership in Agri-cooperatives	Trust Cooperation	6
Women's empowerment - benefits from the cooperative	Income usage Social contact Respect from others Capacity building	9
Women's empowerment - women's role in the cooperative	Decision-making Leadership positions Gender equality	6
Voluntary and open membership	Position in the coop. Condition of membership Gender equality	8
Democratic member control	Sharing among members Activity Cooperative functions Leader	15
Member economic control	Membership fee Share	4
Education, training and information	Extension services Training Access to information	5

As a tool for the collection of primary in-depth qualitative data, focus group discussions (FGDs) were used. These FGDs served as an additional source of data to the supplement data from other primary sources, such as the survey (Morgan 1997). Three female and three male FGDs were conducted with six to twelve discussing participants. The participants were members of a cooperative and their income was generated from farming. No restriction on age and marital status was applied.

The FGDs were divided according to gender to ensure a pleasant and safe atmosphere, to create an intimate place for sharing, to minimize the possibility of open disagreement (Morgan et al. 1998) and to let the participants benefit from meeting other members as well as the author of this survey.

There were two moderators of the FGDs (Table 4). The role of moderator was shared between the author herself and an officer from the Ministry of Agriculture. The same officer served as an interpreter from English into local languages – Lozi, Nyanja and Tonga – and vice-versa.

The FGD Protocol (Annex II) of five main questions was prepared and applied. At the beginning of the FGD, participants were questioned about their voluntary participation in the FDG and their agreement with its recording, assured about anonymity and familiarized with the confidentiality of the content of the FGD as well as the purpose of using the final results. All participants agreed.

Data from the FGDs focus group discussions were recorded on a mobile device and in handwriting and then rewritten to an MS Office Word document. A discussion lasted between 40 and 60 minutes.

Table 4. Overview of conducted focus group discussions

District	Name of the cooperative	F/M	Sign in the text^a	Number of participants	Moderator
Mumbwa	Chikanda	M	FGD 3m	12	Officer from the Ministry of Agriculture
Limulunga	Ilundu	M	FGD 1m	6	Author herself
Kaoma	Kayayamisa	F	FGD 2f	12	Officer from the Ministry of Agriculture
Mongu	Masupanzila	F	FGD 1f	8	Author herself
Kaoma	Mayemo	M	FGD 2m	9	Officer from the Ministry of Agriculture
Mumbwa	Toapinga	F	FGD 3f	10	Officer from the Ministry of Agriculture

^aThe statements FDGs are marked with a number indicating the order in which they were conducted and with a character f or m depending on their gender. For example, a statement from the first female focus group discussion is marked as FGD 1f.

4.5. Data Analysis

In this section, the data analysis will be explained based on the specific aims of this thesis.

The collected data from the questionnaire survey was analysed in MS Office Excel and through the statistical software IBM SPSS Statistics 25. Qualitative data from the questionnaire was converted into quantitative data – strongly agree = 5, partly agree = 4, neither agree nor disagree = 3, partly disagree = 2, strongly disagree = 1.

The collected qualitative data from FGDs is used in the form of statements according to the specific objectives to support the particular results from the questionnaire.

Analysis of the **first specific objective - to find out what kind of benefits women and men can gain from membership in the cooperative supported by Caritas Czech Republic and from membership in other non-supported cooperatives, and then compare these four samples with each other** - focused on economic and social benefits that women and men get from membership in the cooperative. Data was divided into four target groups according to gender and according

to the membership in cooperative with the support from CCR (male CCR, female CCR) and with no support from CCR (male, female). To demonstrate the differences among these four groups, descriptive statistics of mean, modus, min and max were used to describe the data and frequencies were created to show percentage share. Data was tested on normality with a Chi-square Goodness-of-Fit test. Table 5 shows two groups of statements, which were evaluated by respondents in the questionnaire. Those groups of economic benefits and social benefits were tested separately with the H_0 : There are no differences among the target groups in the perception of getting benefits from membership in the cooperative.

Table 5. Variables for the first specific objective

Economic benefits, the five-point Likert scale was used for evaluation	
<i>Variable</i>	<i>Statements</i>
Income growth	My income has increased in the last 3 years because of the membership in cooperative.
Yield growth	The yield of my product (per hectare, beehive or animal) has increased in the last 3 year because of the membership in cooperative.
Price of the yield	I receive higher price for my main product over last 3 years.
Bank services	I have better access to credit and saving services over last 3 years.
Bargaining power	My bargaining power on the market has improved over last 3 years.
Business contacts	I have now more business contacts than 3 years ago
Social benefits	
<i>Variable</i>	<i>Statements</i>
Education	Opportunity for further training has increased over the last 3 years
Capacity Building	Cooperative provides sufficient opportunities for my capacity building (trainings, learning materials, access to information)
Trust	Most people in my community, farmer association or cooperative can be trusted.
	Most people in my community, farmer association or cooperative have trust in me.
	Members openly and willingly share their views in the cooperative.
	Members share their limitations and concerns with each other.
	Members share their needs with each other.

The analysis of the **second specific objective - to find out the entry conditions of membership in agricultural cooperatives** - was calculated and tested based on four statements (Table 6) from the section ‘voluntary and open membership’. Collected data

was divided into two groups according to gender. After that, the data was described through the usage of descriptive statistics of mean, modus, max, min and frequencies.

Table 6. Variables for the second specific objective

Entry conditions into cooperative, the five-point Likert scale was used for evaluation	
<i>Variable</i>	<i>Statements</i>
Condition of membership	It was more difficult to meet the entry conditions into the cooperative because of my religion.
	It was more difficult to meet the entry conditions into the cooperative because of my gender.
	It was more difficult to meet the entry conditions into the cooperative because of my social background or tribe.
	It was difficult to meet the financial entry conditions into the cooperative.

To answer the question, **Do women suffer from any kind of discrimination or entry barriers compared to men?** - this hypothesis was considered:

H₀: There are no differences between men and women in terms of entry conditions into the cooperative based on gender.

For data analysis, the following statement in the Table 7 was used:

Table 7. Female discrimination variable

Voluntary and open membership, five-point Likert scale was used for evaluation	
<i>Variable</i>	<i>Statements</i>
Condition of membership	It was more difficult to meet the entry conditions into the cooperative because of my gender.

Data was tested on normality with the Chi-square Goodness-of-Fit test and on differences with the non-parametric Mann-Whitney U test.

For analysis of the **third specific objective - to compare the view of male and female members on female participation in agricultural cooperative** - three statements in Table 8 were used. Respondents were divided by the grouping variable - *gender*.

Table 8. Variables for the third specific objective – view on female membership

View on female membership, the five-point Likert scale was used for evaluation	
<i>Variable</i>	<i>Statements</i>
Leadership	I find presence of women in leadership beneficial. It is important that both genders are present in the leadership position of the cooperative.
Members	It is important that most members are of the same gender.

Data was described through the usage of the descriptive statistics of mean, modus, max and min. For percentage share, frequencies were used. After that, data was tested on normality with the Chi-square Goodness-of-Fit test. Data was tested with the non-parametric Mann-Whitney U test with the hypothesis: H_0 : There are no differences in terms of male and female view on female membership in the cooperative.

For measuring the perception of women’s empowerment and to find out the **fourth specific objective - to investigate how membership in agricultural cooperatives can raise women’s empowerment** - several indicators were chosen according to the theory developed in the study by Kabeer (1999) and UN ECA (2017). Kabeer (1999) in her study divided the WE contributors into three groups of **resources** (access to), **agency** (decision-making) and **achievements** (well-being outcomes). However, she also mentioned that these three groups of WE contributors need to be seen in the context. Therefore, three pillars of GSI were used, namely **economic**, **social** and **political** pillars (UN ECA 2017), which would ensure that the data was seen in a greater context. Data was divided according to the grouping variable - *gender* - female and male perception. The combination of two methodological approaches of measuring WE was applied in this study as shown in the logical matrix (Table 9 and Table 10). The rows refer to three major indicators based on the WE theory by Kabeer (1999), while the columns demonstrate the three pillars of the Gender Status Index (GSI) (UN ECA 2017).

Table 9. Logical matrix for identification of WE principles variables – female perception

Women's empowerment perception	Economic	Social	Political
Resources (access to)	<p>RE1 My income has increased in the last 3 years because of the membership in cooperative</p> <p>RE2 The yield of my product (per hectare, beehive or animal) has increased in the last 3 year because of the membership in cooperative.</p> <p>RE3 I receive higher price for my main product over last 3 years.</p>	<p>RS1 Opportunity for further training has increased over the last 3 years</p> <p>RS2 Cooperative provides sufficient opportunities for my capacity building (trainings, learning materials, access to information)</p>	<p>RP1 After joining the cooperative, I am able to solve or reduce some constraints I suffered before.</p> <p>RP2 I find presence of women in leadership beneficial.</p>
Agency (decision-making)	<p>AgE1 I can rightly decide about the usage of my salary.</p> <p>AgE2 I don't have to dedicate so much time to marketing and selling over last 3 years</p>	<p>AgS1 After joining the cooperative I feel better prepared for incoming unexpected challenges in my life.</p> <p>AGS2 Members reach decisions with ease and are satisfied with it.</p>	<p>AgP I think I can influence the direction of cooperative.</p>
Achievements (well-being outcome)	<p>AcE1 My bargaining power on the market has improved over last 3 years</p> <p>AcE2 I have now more business contacts than 3 years ago</p> <p>AcE3 I have better access to credit and saving services over last 3 years.</p>	<p>AcS1 I am satisfied with the respect my community provides me.</p> <p>AcS2 Most people in my community, farmer association or cooperative have trust in me.</p>	<p>AcP I intend to run for elections as a leader</p>

Table 10. Logical matrix for identification of WE principles variables – male perception

Men's empowerment perception	Economic	Social	Political
Resources (access to)	<p>RE1 My income has increased in the last 3 years because of the membership in cooperative</p> <p>RE2 The yield of my product (per hectare, beehive or animal) has increased in the last 3 year because of the membership in cooperative.</p> <p>RE3 I receive higher price for my main product over last 3 years.</p>	<p>RS1 Opportunity for further training has increased over the last 3 years</p> <p>RS2 Cooperative provides sufficient opportunities for my capacity building (trainings, learning materials, access to information)</p>	<p>RP I find presence of women in leadership beneficial.</p>
Agency (decision-making)	<p>AgE I don't have to dedicate so much time to marketing and selling over last 3 years</p>	<p>AGS Members reach decisions with ease and are satisfied with it</p>	<p>AgP I think I can influence the direction of cooperative.</p>
Achievements (well-being outcome)	<p>AcE1 My bargaining power on the market has improved over last 3 years</p> <p>AcE2 I have now more business contacts than 3 years ago</p> <p>AcE3 I have better access to credit and saving services over last 3 years.</p>	<p>AcS Most people in my community, farmer association or cooperative have trust in me.</p>	<p>AcP I intend to run for elections as a leader</p>

Hence, nine principle variables were identified (Table 11 and Table 12). The principle variables are in certain cases formed by several partial variables (e.g. access to resources in the economic area – RE1, RE2, RE3).

Table 11. Overview of variables used in the logical matrix for WE measurement – female perception

Symbol of principle variable	Description	Weighting of the principle variable	No of statements	Symbols of sub-variables	Weighting within the principle variable
RE	Access to resources in economic area	$1/9 = 0.11$	3	RE1 RE2 RE3	$1/3 = 0.33$
RS	Access to resources in social area	$1/9 = 0.11$	2	RS1 RS2	$1/2 = 0.50$
RP	Access to resources in political area	$1/9 = 0.11$	2	RP1 RP2	$1/2 = 0.50$
AgE	Agency (decision making) in economic area	$1/9 = 0.11$	2	AgE1 AgE2	$1/2 = 0.50$
AgS	Agency (decision making) in social area	$1/9 = 0.11$	2	AgS1 AgS2	$1/2 = 0.50$
AgP	Agency (decision making) in political area	$1/9 = 0.11$	1	NA	$1/1 = 1$
AcE	Achievements (well-being) in economic area	$1/9 = 0.11$	3	AcE1 AcE2 AcE3	$1/3 = 0.33$
AcS	Achievements (well-being) in social area	$1/9 = 0.11$	2	AcS1 AcS2	$1/2 = 0.50$
AcP	Achievements (well-being) in political area	$1/9 = 0.11$	1	NA	$1/1 = 1$

Table 12. Overview of variables used in the logical matrix for WE measurement – male perception

Symbol of principle variable	Description	Weighting of the principle variable	No of statements	Symbols of sub-variables	Weighting within the principle variable
RE	Access to resources in economic area	$1/9 = 0.11$	3	RE1 RE2 RE3	$1/3 = 0.33$
RS	Access to resources in social area	$1/9 = 0.11$	2	RS1 RS2	$1/2 = 0.50$
RP	Access to resources in political area	$1/9 = 0.11$	1	NA	$1/1 = 1$
AgE	Agency (decision making) in economic area	$1/9 = 0.11$	1	NA	$1/1 = 1$
AgS	Agency (decision making) in social area	$1/9 = 0.11$	1	NA	$1/1 = 1$
AgP	Agency (decision making) in political area	$1/9 = 0.11$	1	NA	$1/1 = 1$
AcE	Achievements (well-being) in economic area	$1/9 = 0.11$	3	AcE1 AcE2 AcE3	$1/3 = 0.33$
AcS	Achievements (well-being) in social area	$1/9 = 0.11$	1	AcS1	$1/1 = 1$
AcP	Achievements (well-being) in political area	$1/9 = 0.11$	1	NA	$1/1 = 1$

In this study, an assumption was applied that all indicators, as well as pillars, are of the same importance. A similar assumption was also considered for the statements within each principle variable. Hence, the weighting was defined at two levels (Table 11 and Table 12): 1. weighting within the principle variables – depends on the number of statements relevant to each variable; 2. weighting of the principle variables – assumes

the same weight of each variable from the nine identified principle variables in the logical matrix.

In order to compare the level of empowerment perception between women and men across the indicators and pillars, the weighted average score (equation 1) was calculated based on the general equation (Guh et al. 1996):

$$WAS = \frac{w_1x_1+w_2x_2+\dots+w_nx_n}{w_1+w_2+\dots+w_n} \quad (1)$$

The specified equations for each principle variable for female perception are indicated in Table 13, and in Table 14 for male perception.

Table 13. Equations for calculation of weighted average scores for WE principle variables – female perception

Women's empowerment	Economic	Social	Political
Resources (access to)	$\sum_{RE1}^{RE3} WAS_{RE} = \left(\frac{AV_{RE1}0.33 + AV_{RE2}0.33 + AV_{RE3}0.33}{1} \right) \times 0.11$	$\sum_{RS1}^{RS2} WAS_{RS} = \left(\frac{AV_{RS1}0.5 + AV_{RS2}0.5}{1} \right) \times 0.11$	$\sum_{RP1}^{RP2} WAS_{RP} = \left(\frac{AV_{RP1}0.5 + AV_{RP2}0.5}{1} \right) \times 0.11$
Agency (decision-making)	$\sum_{AgE1}^{AgE2} WAS_{AgE} = \left(\frac{AV_{AgE1}0.5 + AV_{AgE2}0.5}{1} \right) \times 0.11$	$\sum_{AgS1}^{AgS2} WAS_{AgS} = \left(\frac{AV_{AgS1}0.5 + AV_{AgS2}0.5}{1} \right) \times 0.11$	$WAS_{AgP} = AV_{AgP} \times 0.11$
Achievements (well-being outcome)	$\sum_{AcE1}^{AcE3} WAS_{AcE} = \left(\frac{AV_{AcE1}0.33 + AV_{AcE2}0.33 + AV_{AcE3}0.33}{1} \right) \times 0.11$	$\sum_{AcS1}^{AcS2} WAS_{AcS} = \left(\frac{AV_{AcS1}0.5 + AV_{AcS2}0.5}{1} \right) \times 0.11$	$WAS_{AcP} = AV_{AcP} \times 0.11$

Code: *WAS* – weighted average score, *AV* – average

Table 14. Equations for calculation of weighted average scores for WE principle variables – male perception

Men's empowerment	Economic	Social	Political
Resources (access to)	$\sum_{RE1}^{RE3} WAS_{RE} = \left(\frac{AV_{RE1}0.33 + AV_{RE2}0.33 + AV_{RE3}0.33}{1} \right) \times 0.11$	$\sum_{RS1}^{RS2} WAS_{RS} = \left(\frac{AV_{RS1}0.5 + AV_{RS2}0.5}{1} \right) \times 0.11$	$WAS_{RP} = AV_{RP} \times 0.11$
Agency (decision-making)	$WAS_{AgE} = AV_{AgE} \times 0.11$	$WAS_{AgE} = AV_{AgE} \times 0.11$	$WAS_{AgP} = AV_{AgP} \times 0.11$
Achievements (well-being outcome)	$\sum_{AcE1}^{AcE3} WAS_{AcE} = \left(\frac{AV_{AcE1}0.33 + AV_{AcE2}0.33 + AV_{AcE3}0.33}{1} \right) \times 0.11$	$WAS_{AcS} = AV_{AcS} \times 0.11$	$WAS_{AcP} = AV_{AcP} \times 0.11$

Code: *WAS* – weighted average score, *AV* – average

The values in the weighted decision matrix are in the variance interval of (0.11; 0.55). Based on the assumption that three levels of the WE perception will be estimated (low, medium, high), three intervals were established, with the width of the intervals equalling $h = 0.15$ using the equation (2).

$$h = \frac{R}{k} \quad (2)$$

where R is the variance $R = x_{\max} - x_{\min}$

k - number of intervals, $k = 3$

The levels of WE perception by the respondents and their respective values are shown in Table 15.

Table 15. Intervals of WE perception and its values

Number	Interval	Level of WE perception
1	0.11 – 0.25	Low
2	0.26 – 0.41	Medium
3	0.42 – 0.55	High

4.6. Limitations of the survey

There are some limitations in this study. The main limitation is that the WE perception is compared only among cooperative members. The next step of the research would be to compare it with non-members, but this is outside the scope of this study.

Another limitation was the language barrier. The questionnaire was prepared in English but most of our respondents were not native English speakers. Local interpreters from the Ministry of Agriculture were present for translating and interpreting the questions. Sometimes even the interpreters were unable to translate the question correctly and understand our comments because of cultural differences and diverse perception and usage of the English language. After receiving the answer, it was usually found out if the interpreter and respondent understood the question correctly or not.

It was quite complicated to document the answers from focus groups, even though the discussion were recorded on mobile devices, because sometimes the voice on the recording was disrupted by other external noises, such as a people moving or children speaking.

Collecting the questionnaires was a long process; it took almost 45 minutes to answer one questionnaire. People could get tired during this time and their responses became less honest. Sometimes we had the impression that people were afraid to ask for the question to be repeated or to ask for help from the interpreter because they did not want to acknowledge that their English was probably not at a communicative level. It was hard for them to confess that they did not understand the question and they just gave us any possible answer. Although they were always encouraged at the beginning to be as honest and real with the information as possible so that the situation could be documented accurately.

5. Results

In this chapter the results will be presented. The first part is dedicated to the description of the respondents themselves. Then, the results are structured based on the four specific objectives.

5.1. Socio-demographic Characteristics of the Respondents

The survey was conducted among 272 members of agricultural cooperatives in the Western Province (districts: Kaoma, Mongu, Limulunga) and the Central Province (around town: Mumbwa) of Zambia. The respondents range in age from 16 to 94 years, with the mean of 47 years and modus 65 years. As indicated in Table 16, the female members interviewed had a mean age 47 and for male members the mean age was 51. Years of schooling vary from 0 to 22 years. On average, women were educated for almost nine years and men were educated on average eleven years. The main income of the respondents is generated from farming. As for the agriculture production, 55.5 % of the respondents produce maize as the main crop, 30.5 % grew rice, 8 % of them produce cassava, 2 % of respondents produce vegetables, 1 % grew cashew as the main product, 1% raise animals and 3 % produce a different product. They also usually produce another additional product such as vegetables.

Women are part of a cooperative on average for almost six and half years and men are part of cooperatives for around six years.

Table 16. Socio-demographic characteristics of respondents (N = 272)

Variable	Definition	Mean	Modus	SD	Min	Max
Age of respondent	Age of female respondent in years	47	39	13	16	78
	Age of male respondent in years	51	65	15	22	94
Education	Years of schooling of female respondent	8.9	7	6.1	1	21
	Years of schooling of male respondents	9.3	9	3.7	0	22
Membership	Membership in years – female respondents	6.6	2	6.2	0	45
	Membership in years – male respondents	6	2	5.2	0	30
Benefits	I agree that the cooperative can bring you economic and non-economic benefits. *					
	- <i>female respondents</i>	4.75	5	0.49	1	5
	- <i>male respondents</i>	4.75	5	0.54	1	5

*(Likert scale: 1 – Strongly disagree, 2 – Partly disagree, 3 – Nor agree nor disagree, 4 – Partly agree, 5 – Strongly agree)

The respondents live in rural areas of the poorest and driest region of Zambia (Marini & Ninno 2005). Looking at personal assets/equipment, 43 % of the respondents do not own a mobile phone, radio or TV. 1 % of the respondents are able to rear animals such as oxes, which can facilitate the cultivation of the land. 26 % of respondents have no access to technology that could process their production and only 16 % of respondents have access to technology, usually a rice or maize mill. These people can then sell their processed production for higher prices than before when they sold only raw unprocessed produce.

5.2. Benefits from Membership in Cooperatives

This section is focused on the results related to the first specific objective. Out of a wide range of benefits, this survey was focused on economic and social benefits grouped according to the variables – gender (male x female) and support received by the cooperatives (CCR coops x coops) and their combinations (e.g. male CCR). Female and male members strongly agree that cooperatives can bring them different benefits (Table 16).

5.2.1. Economic benefits from Membership in Cooperatives

In Table 17, the first group of statements related to economic benefits are indicated. The most appreciated benefit is the achievement of new business contacts. From the CCR cooperatives, 52% of male and 40% of female members strongly agree that they now have more business contacts than three years ago in comparison with other respondents from un-supported cooperatives where only 33% of male and 34% of female members strongly agree with this statement.

Furthermore, respondents have scarce access to credit and saving services. However, 32 out of the 81 female respondents from CCR cooperatives said that there is an improvement and that they have better access to credit and saving services, while 24 out of these 81 women strongly disagreed with this statement. 44% of CCR male, 30% of CCR female, 44% of male and 37% of female respondents strongly disagree with the statement *I have better access to credit and saving services than three years ago*. However, one man in the FGD mentioned this: *“We do savings and then we can get goods, increase our produce and start build new house, it has long term benefits for us.”*

All the respondents partly agree or strongly agree with other statements and they confirm that their income has increased as well as their yield. They also receive higher price for their main product than three years ago and their bargaining power has improved as well, more often by female members.

These economic benefits were mentioned in one female FGD as well: *“As a coop sometimes we have a cooperative field, where we produce crops and from the produce and from the income that is produced, we are able to buy for example books*

and give them to individuals from cooperative.” Or “From the sells we are able to find money and buy fertilizers and producing and selling and again producing and selling.” And another statement repeated by both genders: “From the sales we are able to take our children to school.”

Table 17. Results – economic benefits from membership in agricultural cooperative (N=272)

Economic benefits	Target group	Mean	Modus	Min	Max	p-value
My income has increased in the last 3 years because of the membership in cooperative.	CCR male	3.86	5	1	5	0.08
	CCR female	3.60	5	1	5	
	CCR male	3.40	4	1	5	
	CCR female	3.28	5	1	5	
The yield of my product (per hectare, beehive or animal) has increased in the last 3 year because of the membership in cooperative.	CCR male	3.74	5	1	5	0.105
	CCR female	3.69	5	1	5	
	CCR male	3.38	4, 5	1	5	
	CCR female	3.26	4	1	5	
I receive higher price for my main product over last 3 years.	CCR male	3.68	5	1	5	0.425
	CCR female	3.40	4	1	5	
	CCR male	3.33	5	1	5	
	CCR female	3.40	5	1	5	
I have better access to credit and saving services over last 3 years.	CCR male	2.69	1	1	5	0.086
	CCR female	3.25	5	1	5	
	CCR male	2.67	1	1	5	
	CCR female	2.85	1	1	5	
My bargaining power on the market has improved over last 3 years.	CCR male	3.71	4	1	5	0.846
	CCR female	3.80	5	1	5	
	CCR male	3.69	4	1	5	
	CCR female	3.69	5	1	5	
I have now more business contacts than 3 years ago	CCR male	4.23	5	1	5	0.054
	CCR female	4.01	5	1	5	
	CCR male	3.79	4, 5	1	5	
	CCR female	3.88	4	1	5	

Data was tested on normality with a Chi-square Goodness-of-Fit test. All of the *p-values* for each statement were equal to 0. This means that the data was not normally distributed, and a non-parametric test was used for further analysis. The ANOVA non-

parametric Kruskal-Wallis test for more than two samples was used. P-values from the Kruskal-Wallis test are in Table 17. According to this test, differences among the four grouping variables were large, however, all the p-values were >0.05 . This means that the differences among variables are not significant, hence we can state that there are no differences of perception between gender of getting benefits from membership in both types of cooperatives.

5.2.2. Social Benefits from Membership in Cooperatives

This sub-chapter focuses on social benefits. Table 18 lists statements describing social benefits, which are divided into four target groups according to the gender and received support from CCR as a cooperative. Social benefits are even more highly rated among respondents than economic benefits according to the values' modus, which was equal to 5 for each statement.

Through the usage of frequencies it was discovered that the most rated statements were *Members openly and willingly share their views in the cooperative* (86% of CCR males, 84% of CCR females, 92% of males and 78% of females) and *Most people in my community, farmer association or cooperative have trust in me* (CCR males 81%, CCR females 77%, males 77% and females 77%). Only one respondent strongly disagreed with the statement *Members openly and willingly share their views in the cooperative*.

Although the modus of each statement was 5 based the usage of frequencies, it was found that more CCR members strongly agree with the statement *Opportunity for further training has increased over the last 3 years* compared to other non-CCR members. 67% of CCR male and 75% of CCR female members strongly agree with the statement and only 35% male and 45% female members from un-supported cooperatives strongly agree with this statement.

The opportunity of further training was appreciated by one male member from a CCR-supported cooperative, who said during the FGD 1m: *“Because of being in a cooperative there are a lot of trainings, which also help us to be certain and we take it to our homes.”*

In particular, the following trainings were conducted (FGD 1m): *“Rice growing process. These expats came to train us, how about to grow rice,”* or *“Business*

management training, business planning. Caritas Czech has those ideas for us. Business planning process, taking care of our business it can be implement on cooperative level or individual level – our families.”

Table 18. Results – social benefits from membership in agricultural cooperative (N=272)

Social benefits	Target group	Mean	Modus	Min	Max	p-value
Opportunity for further training has increased over the last 3 years	CCR male	4.51	5	1	5	0.000*
	CCR female	4.69	5	2	5	
	male	3.60	5	1	5	
	female	3.95	5	1	5	
Cooperative provides sufficient opportunities for my capacity building (trainings, learning materials, access to information)	CCR male	4.53	5	1	5	0.000*
	CCR female	4.54	5	1	5	
	male	3.92	5	1	5	
	female	3.85	5	1	5	
Most people in my community, farmer association or cooperative can be trusted.	CCR male	4.55	5	2	5	0.906
	CCR female	4.58	5	2	5	
	male	4.58	5	1	5	
	female	4.66	5	3	5	
Most people in my community, farmer association or cooperative have trust in me.	CCR male	4.73	5	2	5	0.955
	CCR female	4.75	5	3	5	
	male	4.73	5	3	5	
	female	4.74	5	3	5	
Members openly and willingly share their views in the cooperative.	CCR male	4.85	5	3	5	0.274
	CCR female	4.80	5	1	5	
	male	4.90	5	3	5	
	female	4.74	5	3	5	
Members share their limitations and concerns with each other.	CCR male	4.67	5	3	5	0.571
	CCR female	4.62	5	1	5	
	male	4.52	5	1	5	
	female	4.55	5	2	5	
Members share their needs with each other.	CCR male	4.56	5	1	5	0.284
	CCR female	4.53	5	1	5	
	male	4.63	5	1	5	
	female	4.37	5	1	5	

*statistical difference was found among tested groups

Data was tested on normality with the Chi-square Goodness-of-Fit test. All *p-values* for each statement were equal to 0. This means that the data is not normally distributed, and a non-parametric test was used for further analysis. The ANOVA non-parametric Kruskal - Wallis test was used for four independent samples. Differences among the four samples were not statistically significant for five statements where the *p-value* was >0.05 (Table 18). This means that the null hypothesis cannot be rejected, and it cannot be said that there are no differences among the four tested grouping variables.

However, for the first two statements the *p-value* was equal to 0. Therefore, the post-hoc test (pairwise comparison) was applied, and the results are noted in Table 19 and Table 20. It was found that there are no significant differences between the male and female respondents and between CCR male and CCR female respondents. However, there are significant differences between the samples supported by CCR and those not supported by CCR (highlighted in yellow).

Table 19. Post-hoc pairwise comparison of four samples by the statement: *Opportunity for further training has increased over the last 3 years.*

Sample 1 - Sample 2	Test statistic	Std. Error	Std. Test statistic	Sig.	Adj. Sig.
male - female	-16.892	13.251	-1.275	0.202	1.000
male - CCR male	51.839	12.773	4.058	0.000	0.000
male - CCR female	64.516	12.683	5.087	0.000	0.000
female - CCR male	34.947	11.693	2.989	0.003	0.017
female - CCR female	47.624	11.595	4.107	0.000	0.000
CCR male - CCR female	-12.677	11.046	-1.148	0.251	1.000

Table 20. Post-hoc pairwise comparison of four samples by the statement: *Cooperative provides sufficient opportunities for my capacity building (trainings, learning materials, access to information).*

Sample 1 - Sample 2	Test statistic	Std. Error	Std. Test statistic	Sig.	Adj. Sig.
male - female	6.280	13.226	0.475	0.635	1.000
male - CCR male	42.800	11.573	3.698	0.000	0.001
male - CCR female	45.038	11.671	3.859	0.000	0.001
female - CCR male	36.520	12.659	2.885	0.004	0.023
female - CCR female	38.759	12.749	3.040	0.002	0.014
CCR male - CCR female	2.238	11.025	0.203	0.839	1.000

According to the post-hoc results there are differences between the members from supported cooperatives and non-supported cooperatives. CCR female and CCR male members have better access to further training and capacity building through learning materials and access to information than female and male members from non-supported cooperatives.

To illustrate the results from Table 18, specifically the first two significant statements, box and whisker plots were used (Figure 2, Figure 3)

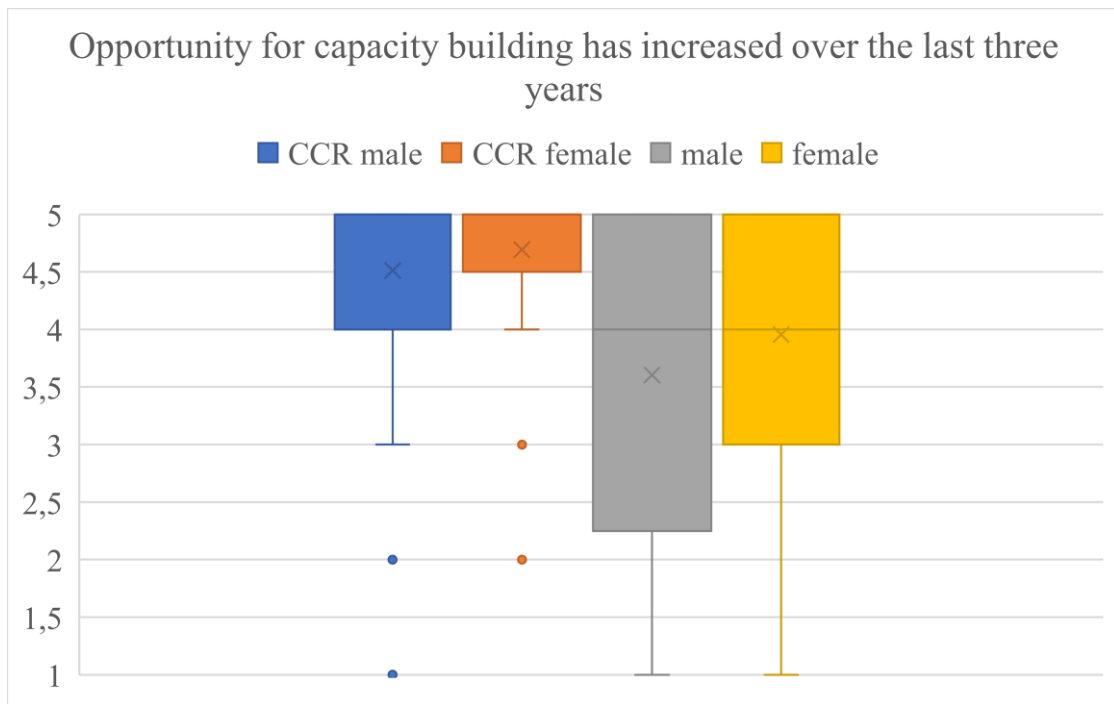


Figure 2. Box and whisker plot results – first significant statement

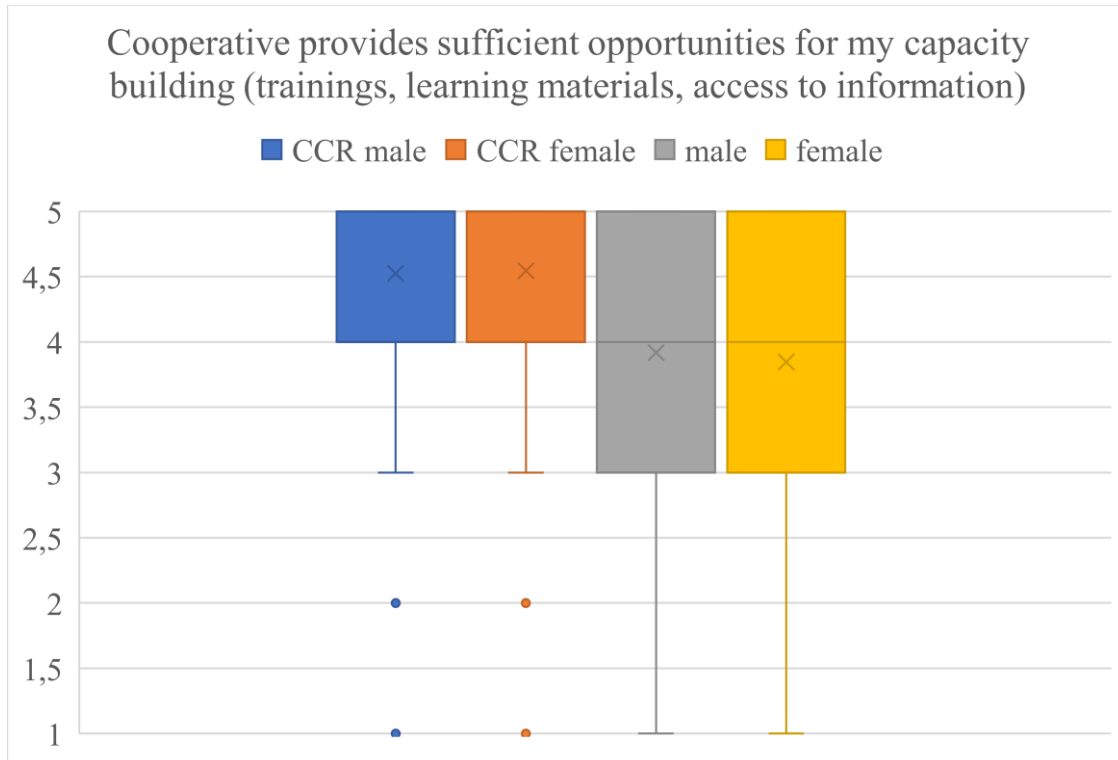


Figure 3. Box and whisker plot results – second significant statement

Cooperative members also appreciate working together as two of the male members in the same FGD 1m said: *“For the group is easier to ask for assistance like from Government or from some NGO. So it is difficult when you are alone to ask for assistance.”* And *“Sometimes it is difficult when you are alone focus on certain goals, but when you are together as a cooperative, it becomes easier because of the people working together.”* Or *“So there is an example someone who is married, and at least you are two, you are working together, and you are able to achieve a lot then when you are just alone, single. Just keeping doing on your own it is not possible for long, no one can handle this.”* Working together is appreciated by women as well: *“We saw that being on your own, you cannot succeed, not until you come as a group then you have success.”* This statement was repeated in all the female focus groups.

5.3. Conditions of Women's Participation in Cooperatives

In this section, the conditions of membership are described in further detail with a special focus on women. Respondents were divided according to their gender. All of the modus values of the four statements and for both grouping variables are equal to 1,

which means that the most repeated answer was strongly disagree, although the whole rating scale (1-5) was used (Table 21).

Entry conditions into the cooperative related to gender, religion and social background were rated by both gender groups higher than 90%. Female and male members strongly disagreed with all of the statements in the Table 21. 95% of female and 95% of male members rated the first condition of religion with the number 1 which indicated strong disagreement. 95% of female members and 94% of male members strongly disagreed with the second statement *It was more difficult to meet the entry conditions into the cooperative because of my gender*. 95% of female and 97% of male members strongly disagreed with the third statement *It was more difficult to meet the entry conditions into the cooperative because of my social background or tribe*.

Mean values for the last statement related to financial conditions were equal to 1.77 for female respondents and 1.88 for male respondents. 72% of female and 63% of male members strongly disagreed with this statement, however, 20% of female and 21% of male members strongly or partly agree that they faced difficulties in meeting the financial entry conditions.

Table 21. Variables for entry conditions into the cooperative (N=272, female (f)=146, male (m)=126)

Entry conditions into cooperative	f/m	Mean	Modus	Min	Max	p-value
It was more difficult to meet the entry conditions into the cooperative because of my religion.	f	1.14	1	1	5	0.771
	m	1.1	1	1	5	
It was more difficult to meet the entry conditions into the cooperative because of my gender.	f	1.12	1	1	5	0.788
	m	1.13	1	1	5	
It was more difficult to meet the entry conditions into the cooperative because of my social background or tribe.	f	1.09	1	1	4	0.513
	m	1.08	1	1	5	
It was difficult to meet the financial entry conditions into the cooperative.	f	1.77	1	1	5	0.250
	m	1.88	1	1	5	

Data was tested on normality with the Chi-square Goodness-of-Fit test and it was found that the data was not normally distributed. Therefore, the non-parametric Mann Whitney U test was used. The p-values from non-parametric test are listed in the

Table 21. All of the p-values are >0.05 and thus there are no significant differences between gender in terms of entry conditions into the cooperative.

5.3.1. Perception of Discrimination of Female Applicants

To find out whether women are discriminated by the entry conditions into the cooperative because of their gender, data was tested on normality with the Chi-square Goodness-of-Fit test. Data was not normally distributed because the p-value was equal to 0.

Therefore, the non-parametric Mann Whitney U test was used. According to the test data, it was not statistically significant, because the p-value was equal to 0.788, which is >0.05 . This means the hypothesis H_0 : *There are no differences between female and male by entry conditions into the cooperative because of the gender* was not rejected.

Various responses came out of the discussion. One group (FGD 1m) of male members refused to answer because: *“Such case we do not speak about.”*

Women in FGD 2f mentioned that some other women in the community had felt discriminated before: *“Such situation before the coop, but now even one woman has those opportunities, those inputs. It is easy for this woman.”* Or *“The time you did not have the inputs and the animals, you find that you have only little money and you used to say: ‘Can I borrow your animals to come and plough my field?’ But the responses they said: ‘we will come tomorrow’ and then they never came. We found that we are forced to continue cultivating on our own, which takes us time. Because of differences between ourselves and our capabilities someone felt discriminated.”* Women in FGD 1f do not feel discriminated at all: *“We work as men and we have our own resources.”* Or *“We have the same opportunities as men have.”*

One man from FGD 3m said: *“Everyone is treated equally – one person one vote.”* Other man in FGD 2m said: *“Previously someone being neglected after he joined the cooperative neglectation was reduced. He is not lonely anymore and he is part of a team.”*

5.4. View of Female Membership in Cooperatives

In this section, the view of women and men on female membership is described. Respondents were separated into two groups according to their gender. The first two statements are related to female representation in leadership positions. Participation of women in cooperatives is highly appreciated according to the mean values and modus values equal to 5, which was the maximum. This means that the most repeated answer from both grouping variables (87% of female and 86% of male members) was ‘strongly agree’ to the first statement *I find presence of women in leadership beneficial* (Table 22). 92% of female and 95% of male members consider the presence of women in leadership positions to be very important. In the FGDs it was found that women are often present in leadership positions and it is not only a male role. In the FGD 2f woman confirmed: “*She was in a board of directors. She was also once a committee member.*” Only 10% of female and 7% of male respondents strongly believe that it is important that most members are of the same gender. On the contrary, 80% of female and 85% of male members strongly disagree with this last statement and don’t believe that having the same gender within cooperative members is important.

Table 22. Descriptive results of the female and male view of female membership and participation in the cooperative, N=272, female (f)=146, male (m)=126)

View on female membership	f/m	Mean	Modus	Min	Max	p-value
I find presence of women in leadership beneficial.	f	4.77	5	1	5	0.839
	m	4.83	5	2	5	
It is important that both genders are present in the leadership position of the cooperative.	f	4.84	5	1	5	0.246
	m	4.93	5	2	5	
It is important that most members are of the same gender.	f	1.58	1	1	5	0.268
	m	1.39	1	1	5	

Data was tested on normality with the usage of the Chi-square Goodness-of-Fit test. According to the p-values which were equal to 0, it was found that the data is not normally distributed and for further analysis a non-parametric test was used.

The Mann-Whitney U test was used to find out the differences between the two samples. Differences between the two samples were not statistically significant because all the p-values were >0.05 (Table 20). The hypothesis H_0 : *There are no differences in*

terms of male and female view on female membership in the cooperative was not rejected.

5.5. Evidence of Women’s Empowerment in Cooperatives

In this section, the evidence of women’s empowerment perception is described and compared with the perception male empowerment.

For measuring data, the weighted average score (WAS) was used according to the logical matrix (Table 9 and Table 10) and the weights described in the methodology (Table 11 and Table 12). The measured weighted average scores are in the Table 23 and Table 24 marked in yellow or green according to the intervals and the level of WE perception.

Table 21 describes the WAS calculated from female responses. Seven out of nine variables reached a high level of WE perception. Two variables from the economic pillar reached a medium level of WE perception.

Table 23. Results of women’s empowerment perception, N=131

Women's empowerment perception	Economic	Social	Political
Resources (access to)	0.37	0.47	0.51
Agency (decision-making)	0.46	0.50	0.50
Achievements (well-being outcome)	0.39	0.52	0.43

The same levels of empowerment perception were reached by male respondents (Table 22).

Table 24. Results of men’s empowerment perception, N=126

Men's empowerment perception	Economic	Social	Political
Resources (access to)	0.39	0.47	0.53
Agency (decision-making)	0.42	0.51	0.50
Achievements (well-being outcome)	0.38	0.52	0.44

The highest WAS, equal to 0.52 for female perception, was calculated from the social pillar in the category of achievements, where there were two statements: (AcS1) I am satisfied with the respect my community provides me; and (AcS2) Most people in my community, farmer association or cooperative have trust in me. In the FGD 3f more women appreciated the possibility of sharing and working with each other: *“The best thing on cooperative is to be together, work collectively and share the knowledge.”* Or *“We also promote each other.”*

Besides the respect of community, confidence was also built: *“Our committee members sometimes go to represent our cooperative. They have this responsibility and through this they have developed confidence. They describe exhibits and it shows results to the whole cooperative because we won first or second price at agricultural show.”* (FGD 2f) or *“I was a shy woman I could not speak in front of people but as we meet several other people, I am able to stand and speak.”* (FGD 2f).

The second highest WAS, equal to 0.51, was calculated from the political pillar in the category of resources: (RP1) After joining the cooperative, I am able to solve or reduce some constraints I suffered before. (RP2) I find presence of women in leadership beneficial. Presence of women in leadership can be useful for building confidence. One woman from FGD 3f said: *“I used to be shy but after that my confidence came, I became a chairperson and I am able to stand in front of people and speak.”* A similar statement was made in FGD 2f as well (previous paragraph). One woman in FGD 1f described the constraints she suffered before: *“Before there was no training, we had no knowledge, we were selling individually but now we are linked to the network and individuality was reduced. Through the ploughing workload was reduced as well.”* Another woman from the same FGD 1f described the positive aspects of being a chairperson: *“I have been capacity built and empowered because as a chair I get new experiences from outside.”*

These results are also confirmed in other female focus groups. Women in FGD 2f shared their plans for a personal or common cooperative life: *“To get the money to buy the animals and also to continue with making baskets and to open the market for white people. It could be very helpful, and it can brighter our future.”* And on a cooperative level, the following was mentioned: *“There used to be an idea of building of structure, where we can safe storage huge amount of inputs or cover the production*

against bad weather or for sell through cooperative.” And “To encourage people, who are out of place, to join the cooperative. And actively involve the youth in cooperative, because they can come with knowledge. They do a lot of activities – painting sketches, doing dramas and it can also bring income to the cooperative.”

The WAS of social resources related to education and additional trainings was equal to 0.47. In FGD 2f one woman confirmed: *“I have been capacity built – in terms of knowledge, production technics – conservation farming.”* And another female from the same FGD added: *“We gained knowledge – different varieties.”* In the FGD 3f different knowledge was appreciated, such as: *“I have gained knowledge in personal saving.”* Or *“Before I did not know how to write.”* Or *“We get the knowledges how to use manure, how to do business and farming.”* One woman in FGD 1f said: *“Trainings helped a lot, now we do better businesses and we manage savings.”*

The lowest WAS was achieved in economic resources where the value was equal to 0.37. However, in the FGDs, positive changes due to membership in the cooperative in terms of economic resources and capacities were described. One woman from FGD 2f said: *“From the sells we are able to find money and buy fertilizers and producing and selling and again producing and selling and also send our children to school.”* Other woman from the same FGD added: *“We are also able to help older women who are not able to manage and give them money.”*

In terms of the perception men’s empowerment, seven variables reached a high level of empowerment perception, which is highlighted in green in Table 24. Only two variables from the economic pillar were highlighted in yellow, which signifies the medium level of empowerment perception.

The highest WAS, equal to 0.53, was calculated in the political pillar where male respondents perceive the beneficial presence of women in leadership. Leadership positions have a positive impact on personal development as was said by women mentioned previously and in FGD 2m: *“I was a shy person, then the position of vice chair was given to me. I was forced to lead a group and the shyness left me and I become more confident.”*

The second highest WAS is equal to 0.52 and was calculated from the social pillar in the category of achievements, which is related to the trust among members in

the cooperative. In the FGD 3m one man said: *“The best thing on cooperative is being together – being one.”*

The third highest WAS, equal to 0.51, was calculated also calculated from the social pillar, but in the category of agency. The statement in this section was related to decision-making inside the cooperative, which is done with ease and members are satisfied with it. In FGD 2m, this process with a cooperative field was described: *“We have 2 ha coop field where we shared the money from and buy different stuff. We want to buy assets for our children.”* They also described the future plans they decided to implement: *“We want to build a shed closer to Kaoma and buy animal to facilitate ploughing on fields.”*

The lowest WAS is equal to 0.38 and was calculated from the economic pillar in the category of achievements. This section contains statements about improved bargaining power, improved access to credit and saving services and gain of new business contacts. The second lowest WAS was also calculated from the economic pillar in the category of resources. Statements here include increased income, increased yield and higher prices for their products. However, men in FGDs described some positive changes. In FGD 2m one man said: *“We manage savings and thus we can buy goods. Our production has increased, and we were able to start building new house.”* Or *“We suffered previously. We ate once in a day. We did not know how to grow but now we have three meals a day.”*

According to the calculated WAS and intervals there are no differences between female and male perception.

6. Discussion

The first specific objective was related to the benefits that members can gain through their membership in agricultural cooperatives. The survey focused on social and economic benefits. Nevertheless, these two factors are closely connected. According to the results from the questionnaire and FGDs, it was found that cooperative members can get further training, access to information, they can share their needs or concerns with each other and they can trust each other.

Most of the differences among the four samples (CCR male, CCR female, male, female) were not significant, except for two statements related to further training and capacity building. It was found that members from agricultural cooperatives supported by CCR have better access to further training, information and learning materials than members from non-supported cooperatives. This result also confirmed that the activities provided by CCR described in Chapter 4.1 are successful. Farmers appreciate the provided trainings focusing on business skills, as was mentioned in the FGDs where the positive changes in their lives because of this opportunity were described, especially for the women. They do not suffer from hunger anymore; they can afford to buy goods and send their children to school. This process was also noticed by Revathy (2015) who explained that women are able to start own business after receiving training and thus become economically empowered. This then shows the connection between the social and economic benefits. Masabo (2015) also noted the added value of the community, which is naturally established among the members, including female members. They share not only the positive things together but also everyday challenges. This behaviour of openness and empathy creates a friendly place full of solidarity, which was also mentioned during the focus groups, where the members noted that they can help the older women and other disadvantaged members such as widows or ill people. The same could be said about the conducted female. Although Bijman and Wijers (2019) described the development of cooperatives as becoming only economic oriented after few years, the ideas related to the future of the cooperative shared in the female FGDs indicated otherwise. Women see the potential in the growing number of members, joining with the young people and others with new ideas. Besides the building of community, they also plan on improving their infrastructure, making attractive products for tourists, and buying oxes and goats. They are not only economically oriented. From

the study by Périlleux and Szafarz (2015) it seems that female leaders can better lead the cooperative towards their mission and that their presence results in social outcomes. This is because their policies are people-oriented, and they take care of and feel greater responsibility for their community than for their careers. Some of the cooperatives can become 'inputs' oriented because this is what small-scale farmers appreciate very much. This was found by Blekking (2017) in Zambia, however, participants in FDGs labelled gaining and sharing knowledge as the best part of membership in a cooperative. Another benefit also includes getting inputs, but, according to the conducted FDGs, this was not the main motivation of being a member of cooperative.

The second specific objective was related to the entry conditions into the cooperative. There were no significant differences between the male and female members and the mean values were very low, indicating that the applicants for membership were almost not at all limited by the entry conditions related to social background, religion and gender. However, 20% of female and 21% of male members partly or strongly agreed that they faced some difficulties to fulfil the financial entry conditions. The financial entry conditions usually include payment of shares and payment of a membership fee. Chagwiza et al. (2016) makes a very similar observation in his study from Ethiopia. According to him, financial conditions may become a barrier for some farmers, but there are other factors that have greater impact on joining the cooperative than the financial entry condition. Alongside the financial entry condition, differences in data was tested to determine whether or not women suffer from discrimination based on gender. Mean values were low but the differences were not significant. However, based on the FGDs, neither women nor men feel discriminated. According to ILO (2015) cooperatives also face many challenges with gender equality because of cultural habits. And although the cooperatives based on ICA principles promote open and voluntary membership, in this case ILO considers forming female-only cooperatives with the purpose of minimizing those gender inequalities.

Third specific objective is connected to the female and male view on the female membership. In our results there were found no differences between male and female respondents. According to the frequencies 87% of female and 86% of male members strongly agree that presence of women in leadership is beneficial and 92% of female and 95% of male members consider presence of women in leadership positions as very

important. From the FGDs it is known that there are a lot of female members who are in leadership positions, it can be as a chairperson or committee member. Although most of the developing countries have female representation in leadership position below the average Europe and sub-Saharan Africa are above the average (ILO 2015). According to UN (2011) presence of women in leadership positions is one of the nine targets belonging to the fifth goal 'gender equality' from the SDGs and according to UN Women (2011) and its seven principles of women's empowerment it is the very first principle: 'Establish high-level corporate leadership for gender equality.' Cooperatives can thus play a key role to achieve these targets through female leaders, committee members or chairperson because cooperatives create a suitable place for women to train and improve their leadership abilities (Dohmwirth & Hanisch 2017).

The last specific objective was related to the empowerment perception. In this survey were compared female and male cooperative members. In the study from Rani and Yadeta (2016) they found out that farmers can become economically, social and political empowered through the membership in cooperative, as well as was found out in this survey where both women and men reached medium level of empowerment perception in economic resources and economic achievements and high level of empowerment perception in other pillars and categories – economic agency, and whole social and political pillar. It is hard to say whether cooperatives are responsible for women's empowerment especially while the male perception of empowerment reached the same level as the female one, but as Masabo (2015) wrote in his study: "Cooperatives influence women's skills, knowledge and confidence, as well as their resources and networks and enable women to change." Cooperatives are contributors and facilitate this process of empowerment. However, cooperative does not benefit all the members the same way. All of them have opportunities to participate on training and meetings but not for all of them these activities have the same impact. Berntsen (2017) speaks about the elite members who benefit the most from the membership and are successful in empowerment process. Among these elite members belong people with central leadership positions and after that the empowerment process of other members depends on how close they are with elite members.

7. Conclusion

Agricultural cooperatives are rising trend in Sub-Saharan countries mostly focused on agriculture because most African people are small-scale farmers. Cooperatives are supported from different stakeholders for different reasons. Usually farmers are gathered into cooperatives because as a group it is easier to hook attention and get support from NGOs and Government. These subjects provide material support in form of inputs (seeds, fertilizers) and intangible support in form of different trainings mostly focused on business skills and farming.

Women in developing countries often face different difficulties in access to information, education, financial sources, paid job, sufficient income, decision-making or land-right. These inequalities between men and women are often caused by historical and cultural habits where women are seen in domestic role doing unpaid work. UN Women, UN and World Conference on Women try to break these old habits through SDGs, Principles of Women's Empowerment or Beijing Declaration and Platform for Action. Those activities improve the position of women worldwide, they are focused on promotion of gender equality and empowerment of all girls and women on the world.

At the local level gender equality and women's empowerment could be achieved by membership in the cooperative, which are based on the values of equality, equity, solidarity, democracy, self-help and self-responsibility and defined by ICA principles.

Therefore, this thesis investigated the current situation between the agricultural cooperatives supported by CCR and non-supported cooperatives in Western and Central Province of Zambia. It was found out that cooperatives provide different economic and social benefits to the members. Significant differences were found between cooperative members supported by CCR and non-supported cooperative members. This difference occurred by the statements related to access to further training and to learning material and information. CCR provides to the supported cooperatives various trainings usually focused on business skills and farming and the members become capacity build. Among the other membership benefits belong higher income and higher yield, improved bargaining power, building trust among members, possibility of sharing ideas, experiences but also needs or constrains. Participants in the FGDs mentioned that they do not starve any more, they can afford buying goods, medical healthcare and send

children to the school. They said they manage farming more effectively because they got training on rice production or fertilizers usage. Those small steps improved lives of many families and it is helping them to get out of poverty.

It was also found out that applicants to cooperative may meet different entry conditions related to social background, religion, gender or payment of fees. Respondents did not face almost no difficulties related to the first mentioned entry conditions, however, one fifth of female respondents and one fifth of male respondents agreed that the financial entry conditions were difficult for them. Null hypothesis related to female discrimination by the entry conditions into the cooperative was not rejected. Nevertheless, in more female and male FGDs were said that the members are not discriminated, women feel strong and equal to men and men treat one person as a one vote.

Cooperatives seem to be a good opportunity for women to become a leader or get other position in the cooperative leadership. Women and men perceive the importance of female presence in leadership. Through this opportunity previously shy woman become a confident leader who take this responsibility and lead and represent the cooperative in the wider community.

Last but not least it was found out that female and male respondents achieved high and medium level of empowerment perception through the membership. Different statements were divided into three different pillars – economic, social and political – and three different categories – resources, agency and achievements. Values were calculated with the WAS and highest values were found out in the social pillar by women and political pillar by men. It cannot be said that cooperatives directly empower cooperative members, but it can be said that cooperatives provide various benefits which contribute to the feelings of members to perceive themselves as empowered.

Next step of this research would be to compare cooperative members with non-members and find out the effectiveness of cooperatives.

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