INFLUENCE OF MEMBER PARTICIPATION ON SUSTAINABILITY OF COMMUNITY-BASED COFFEE NURSERIES IN KASESE DISTRICT

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DECLARATION

This is to declare that; this report has not been accepted anywhere for an academic award and is being submitted for award of master's degree of Kyambogo University. This report is a result of my ideas, observations and experiences backed by works from what others which have been duly acknowledged.

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APPROVAL

This is to certify that this work was carried out under our supervision as university supervisors and is now ready for examination with our approval.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBCNP	Community-Based Coffee Nursery projects
UCDA	Uganda Coffee Development Authority
CBN	Community-Based Nurseries
CBCN	Community-Based Coffee Nursery

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ABSTRACT

The Uganda Coffee Development Authority has prioritized Community-based approaches as a means for ensuring sustainability of the coffee nurseries in Uganda. To-date the Authority continues to distribute coffee seed to community-based nursery groups and several community demonstration sites set up all over the country. While some communities have registered commendable growth and sustainable seedling production, others have recorded failure and collapse. The reasons for failure are not well understood. Therefore, the study was conducted to: i) examine key characteristics of the Community-based Coffee Nurseries in Kasese District ii) determine the level of member participation in management and operations of the CBNP and iii) establish the relationship between member participation and sustainability of CBNP. Cross sectional survey design was adopted. Questionnaires, focused group discussions and Document review were used to collect information from 294 respondents. Quantitative data was analyzed using SPSS while qualitative data was presented using thematic approach. Results showed that the community was not empowered to create community projects as solution to their coffee seedlings needs through community projects without external support. However, CBCNs sustainability in Kilembe Sub County was majorly influenced by member participation as compared to CBCNs in Mahango Sub County. The most important requirement for membership of a CBN was being a coffee farmer and a resident in the sub county. Member participation in management and operations of CBNP was higher in Kilembe than Mahango Sub County. Member participation and number of years as CBN had a statistically significant positive effect on number of seedlings for each farmer in Kilembe, whereas members training, number of years as CBN and membership had a statistically significant positive effect on number of seedlings for each farmer in Mahango. Membership, Members Contribution, Number of Years as CBN, Members Participation and Members training had statistically significant positive effect on the number of members in groups in Kilembe, whereas Membership, Number of Years as CBN, Resources Mobilization, Members Participation and Members training had a statistically significant positive effect on the number of members in groups in Mahango.

CHAPTER ONE: BACKGROUND TO THE STUDY

1.1 Background to the study

The success of any community-based project is measured in terms of accomplishing its intended objectives and benefits to that very population for which the project was deliberately designed to benefit or provide solutions to their challenges. On the other hand, failed project are those that do not meet the intended objectives and eventually close operations (Mbaiwa, 2004; Simane & Zaitchik, 2014). In order to avoid project failure and improve project sustainability, project implementers must ensure that their rules are well communicated and understood by all participating stakeholders in all project related activities, most importantly social mobilization. In addition, project implementers should be sufficiently trained and ample resources available to them. Supervision systems need to in place, well understood to ensure that project rules are executed precisely (Oino, Towett, Kirui, & Luvega, 2015; Pomeroy, Pollnac, Katon, & Predo, 1997).

Sustainability of development projects has since been adopted but with emphasis on environmental consciousness and ecological footprints (Mbaiwa, 2004; Mebratu, 1998). Community-based Projects should provide solutions to challenges affecting the communities concerned by addressing real needs of the people concerned. Some elements responsible for successful community-based projects include: ample resources and ability of the community to support development projects (Aref, Redzuan, Gill, & Aref, 2010). Ability of the community includes money, materials, labour, and related technical skills. For quite some time, some cities in America have been recognized for their

sustainability efforts of community projects (Salvin, 2011). One good example is the Medellin City in Columbia that has become a global leader from the sustainability perspective by demonstrating leadership and innovation in implementing community projects for the poor communities especially coffee farming in hilly areas(Alonso-Gonzalez, Chacon, & Peris-Ortiz, 2018; Vazquez-Brust, Sarkis, & Cordeiro, 2014).

At the post Rio Conference (2012) the United Nations recognized that farmers can make important contributions to sustainable development; member countries emphasized the need to revitalize the agricultural and rural development sectors and supporting sustainable agricultural practices(United Nations, 2012, 2014). In the same vein, Uganda's Vision 2040 sates the country's commitment to supporting agriculture to activate agro based industries, food and nutrition safety (National Planning Authority Uganda, 2007, 2015). Being one of the top producers of coffee in the World, Uganda aspires to transform the coffee sector from subsistence farming to commercial coffee farming. As a way of improving coffee productivity, Government of Uganda is committed to increased investment in technology through research for improved seeds, varieties and stocking improved germplasm (National Planning Authority Uganda, 2007). Multiple records show that Uganda's Agricultural sector still has sustainable development concerns including; reliance on rain fed agriculture, low agriculture productivity (Ellis & Bahiigwa, 2003; Kassie, Shiferaw, & Muricho, 2011; Shively & Hao, 2012).

Since the 1990's, legislative reforms have been enacted in Uganda to decentralize state resources and promote community participation in local development to achieve sustainability of the local projects (Muriisa, 2008). By

law, the national income is disbursed to community authorities who are now responsible for resource planning, mobilization, management, allocation and use. In addition, the same reforms also provide favorable opportunities for both local and international agencies to supplement service delivery. Community involvement in Community-based Projects has been known to boost ownership of local projects and project deliverables (Ahmad & Abu Talib, 2015; Caleb Wafula Wasilwa, 2015). In Uganda, Community-based Projects are implemented as a strategy to improve ownership of village projects like community-based coffee nurseries (UCDA, 2013). Riding on these enabling factors, Uganda Coffee Development Authority (UCDA) designed community-based coffee nursery projects to enhance the ability of coffee farming communities to participate in key decision making processes. This led to dramatic increase of community-based nurseries to over 500 by 2010 and 1900 in 2014; benefiting 40,929 households, three youth groups and one women group(Akoyi & Maertens, 2018; Tress Bucyanayandi, & Nyiira, 2012; UCDA, 2011). Since 2014, there has been a gradual decline in the number of coffee nurseries in Uganda (Mbowa, Odokonyero, & Ezra, 2014), reducing from 1900 to 700 in 2017. The projects have not performed well due to a number of challenges, including the limited involvement of communities. This is worsened by reluctance of coffee community members to participate in project activities leading to slow development of skills that may be necessary to take action. The sustainability of community-based coffee nurseries has thus remained a challenge.(UCDA, 2016, 2017).

Kasese district has twenty coffee growing sub-counties. Mahango sub-county, where community-based coffee nurseries were first established, in 2005, to

alleviate the shortage of coffee seedlings for planting, accounts for the largest coffee activities in Kasese district(UCDA, 2006, 2008). Acknowledging the importance of Community participation in a coffee projects and sustainability of community projects, UCDA through its production department mobilized coffee farmers of Mahango sub-county. The farmers were then trained in coffee nursery management, including- nursery site selection in order to establish community-based coffee nurseries. With 1000 Kgs of improved seed and 800 Kgs of potting materials availed by UCDA, the farmers established15 coffee nurseries in 2008(UCDA, 2008), later increasing to 46 in 2010(Tress Bucyanayandi et al., 2012; UCDA, 2011). For quality of seedlings, UCDA continued supporting the farmers with seed. Additionally, in order to ensure sustainability of Community-based Nurseries in Kasese district, in 2015, UCDA delivered 19,500 Kgs of Elite Robusta and Arabica seed to community-based nursery groups (UCDA, 2016). In the same period, in partnership with Hima Cement, UCDA distributed a further 1,000 Kgs of Arabica seed to farmers in Kasese district. UCDA further established eight technology transfer centers to act as training centers for the community members especially on the management of coffee pests (UCDA, 2016, 2017) Despite these and several other efforts, 78% (36) of the 46 Community-based Coffee Nurseries established in Mahango Sub County in Kasese District for the coffee year were reported as failed. This failure was characterized by abandonment of coffee nursery shades constructed to improve coffee seedlings and total seedling failure (Mbowa et al., 2014; Tress Bucyanayandi et al., 2012; UCDA, 2013). On the contrary, UCDA asserts that, 98 % (45) of the 46 Community-based Coffee Nurseries established in Kilembe Sub County were successful. This implies that UCDA may be losing a lot of

funds inform of seed in the initiative to enable coffee farmers of Mahango Sub County to develop their own coffee seedlings.

Success and sustainability of many community-based projects has been attributed to a large extent to community participation. Among others, Mansuri and Rao reviewed community-based development projects (Mansuri & Rao, 2004); Caleb related community participation and sustainability of CBDPs in Kenya(Caleb Wafula Wasilwa, 2015); a study that recommended community participation as an important strategy for advancing sustainable village health governance in Tanzania (Madon et al., 2018); a multidimensional analysis of sustainability elements for Community-based program sustainability that listed 22 key elements for sustainability of community-based programs. (Ceptureanu, Ceptureanu, Luchian, & Luchian, 2018); Participatory conservation as a tool for management of Community-based natural resource in Botswana (Mbaiwa, 2004; Twyman, 2000). Others include: (Ahmad& Abu Talib, 2015; Marston, Renedo, McGowan, & Portela, 2013; Olajuyigbe & Olajuyigbe, 2016; Simane & Zaitchik, 2014; WARNER, 1997) on various subjects of community participation and sustainability. It is largely argued that participation significantly contributed to the success of the community projects the authors evaluated. Moreover, some earlier and recent reports from UCDA, and allied Government agricultural bodies have reported community involvement as a key factor in community project involvement(Akoyi & Maertens, 2018; Mbowa et al., 2014).

Although there are many other potential factors, basing on this background and literature, this study will assess the influence of community participation on

sustainability of community-based coffee nurseries in Kasese District by comparing coffee nursery practices in Mahango and Kilembe Sub Counties.

1.2 Statement of the problem

Uganda Coffee Development Authority has prioritized Community-based approaches as a means for ensuring sustainability of the coffee nurseries in Uganda. To-date the Authority continues to distribute coffee seed to community-based nursery groups and several community demonstration sites have been set up all over the country. While some communities have registered commendable growth and sustainable seedling production, others have recorded failure and collapse. The reasons for nursery failure are yet not well understood but some researchers attribute it to the extent of ownership by the recipient communities. Kasese district is one of the current districts where UCDA has consistently invested such initiative since 2008. However, many of the benefiting sub-counties continue to grapple with high rates of failure of the nursery groups. This study examines the degree of community participation in nursery development as a basis for explaining the differentiated performance of the nurseries. As a result, a substantial amount of funds is lost by the UCDA and the communities. The study conducted in Mahango Sub County registered a higher failure of community-based coffee nurseries compared to the neighboring sub counties such as Kilembe sub-county.

1.3 General objective

The overall goal was to investigate the influence of participation on the sustainability of Community-Based Coffee Nursery Projects in Kasese district.

1.4 Specific objectives

The specific objectives of the study were to:

i. To examine key characteristics of Community-based Coffee Nurseries in Kasese District in terms of structure, membership and operations.
ii. To determine the level of member participation in the management and operations of the CBNP
iii. To establish the relationship between member participation and sustainability of CBNP

1.5 Research questions

Objective 1: Key characteristics of Community-based Coffee Nurseries in Kasese District

Qn1: What is the composition of CBNPs in terms of membership?

Qn2: How is the management of CBNPs structured?

Qn3: How are key resources for CBNPs obtained?

Objective 2: Levels of member participation in the management and operations of the CBNP

Qn1: To what extent do community members participate in communication and information sharing?

Qn2: To what extent do community members participate in extension and training services?

Qn3: To what extent do community members contribute to coffee nursery establishment and management?

Objective 3: Relationship between member participation and sustainability of CBNP

Qn1: What is the effect of farmers' participation on number of coffee nurseries and production of coffee seedlings in CBNP?

Qn2: How does farmers' participation influence the sustainability of number of groups and number of members within groups in CBNP?

Qn3: To what extent does farmers' participation influence the establishment of coffee farms in CBNP?

1.6 Significance of the study

Results of the study identified factors that favor sustainability of community projects in both Kilembe and Mahango sub counties, so that project implementers and other concerned stakeholders become aware of what is needed to facilitate the progress and future of their projects. Additionally, the results will lead to improved management of community projects so that the jobs created by the projects are sustainable. This will eventually improve the economic status of community members through income generation and the ability to afford basic needs.

The results of this study will help community development officers such as agricultural extension officers and other stakeholder to recognize the challenges facing nursery projects and possibly provide solutions.

The results will enable local government officials in charge for community development to enact guidelines on the management of community projects. In

fact, this finding will provide a baseline for guiding community-based projects during planning and implementation processes.

The findings of the study will also enable Uganda Coffee Development Authority adopt new strategies and polices that may enable coffee farmers to continue producing their own clean coffee seedlings in their communities.

1.7 Justification of the study

There has been much effort in trying to bring services closer to the coffee communities in Uganda. Hence the need to conduct this study and establish determining factors responsible for sustainability of community-based coffee nurseries. This will promote efficient utilization of resources and promote growth of the coffee industry showing a better level of sustainability.

It may also minimize donor stress since sustainability of CBNP promotes timely achievement of their objectives and encourages further investment in the coffee sector. Therefore, factors that facilitate success must be clearly known and understood to ensure sustainability of development partners' initiatives and improving service delivery among coffee farming communities.

1.8 Scope of the Study

1.8.1 Geographical Scope

Though the study was expected to give a conclusion on Uganda as a whole, it was specifically conducted in Mahango and Kilembe Sub Counties in Kasese District. Four coffee growing parishes were selected from the sub counties

specifically where community-based coffee nurseries were first established and the host farmers of the community-based coffee nurseries were interviewed.

1.8.2 Time Scope

The study was restricted to a period of five years starting 2009 to 2014. The year 2009 was selected to mark the highest number of 46 coffee nurseries in Kasese district and 2009 up to 2014 when the Authority started recording challenges with community-based coffee nursery projects in Uganda.

1.8.3 Content Scope

The study was confined to community members' participation in CBNP, factors that affect participation in CBNP and the effect of participation on sustainability of CBNP.

1.9 Operational definition of terms in this study

Sustainability refers to continued benefits of the projects to beneficiary communities, behaviors change towards the production of coffee seedlings, coffee farmer's empowerment and ownership of coffee nursery projects.

Community Participation referred to the involvement of local farmers in coffee nursery projects in the construction of nursery sheds, production of coffee seedlings, information sharing and execution of nursery activities.

Social benefit sustainability refers to the continuous use of the established coffee nursery projects, for the community to achieve a better livelihood through the production of coffee seedlings to coffee farmers.

CHAPTER TWO: LITERATURE REVIEW

2.1 Theories on community participation and sustainability of Community-based Projects.

The researcher adopted 'The Resource Mobilization and Social Movement Theory' developed by McCarthy & Zald (Jenkins, 1983; Mccarthy & Zald, 1977), focusing on recent revisions (Jenkins, 2003; McCarthy & Zald, 2006, 2017). The theory assesses a variety of resources that need to be assembled for sustainability of projects to be implemented in rural communities. The theory argues that sustainability can only be achieved if all concerned stakeholders actively participate. However, participation involves understanding participation itself and power of the different stakeholders and their interests; the ability to meet the different interests to achieve what they want (McCarthy & Zald, 2017). They assert that power held by those access to information and money. It also influenced by people's confidence and relevant skills. Jenkins further found that many organizations are not allowing people to participate fear that they will lose of control (Jenkins, 2003); they think there is not so much power to go around and by allowing people to participate means giving some to people thus losing their own. However, there situations were working together enables every individual to achieve more than they would if very one worked individually. McCarthy and co-workers listed community members' contributions to include; information sharing, funds, labour, material, equipment's or involvement or participation in project related meetings and decision making. The theory further argues that sustainability is greatly influenced by community participation even at the lower intensities of it (McCarthy & Zald, 2006, 2017), and that willingness

of community members to contribute increases empowerment, effectiveness, efficiency, equity, ownership, interest , coverage and overall sustainability of the local projects.

McCarthy's theory points out that involving communities in community-based projects such as the community-based coffee nurseries under study, results into resources mobilization inform of labour, money and material contributions. Such factors increase the effectiveness and efficiency of the community projects therefore, reducing the levels of failure and enhancing sustainability of community projects.

This study also exploits the sustainability theory that was first advanced by Freire as cited by Jackson(Jackson, 2007) and discussed and improved by several recent authors(Ferreira, n.d.; Garvare & Johansson, 2010; Haller, 2018; Too & Bajracharya, 2015). Freire acknowledged the degree of sustainability of development projects is greatly influenced by the degree of buy – in by the local community and that buy – in is dictated by the extent of the community members involved. Unless an innovation strongly meets the people's needs, and that the individuals feel so involved to the extent of regarding the innovation as theirs , it cannot be continued over the long time (Ademola, 2008). The sustainability theory vests power in members of the community rather than "professionals" to be in charge of the production processes of and decision making. The theory points out that sustainability can best be attained in a culture which embraces learning and requires blending, social cultural, economic, political and ecological factors with strict adherence to top down and bottom up development initiatives.

Further, this theory highlights the necessity for understanding factors responsible for the failure of community-based projects if sustainable is to be achieved. Accordingly, coffee nursery projects would be improved and sustained with the help of community members.

2.2 Member participation and sustainability of Community-based Projects.

Community participation as a concept in development projects gained prominence in development debates in the seventies and since then compositions on the subject has grown drastically. A study done by Oino and co-workers(Oino et al., 2015) (2015) is in agreement with the fact that in the world today, community-based approaches for community development are the perquisites for achieving project success and sustainability. These approaches acknowledge the resilience abilities, skills, resources and knowledge of the targeted and build on them to deliver safety and solutions that support the community's own purpose (Save The Children, 2015). Community-based projects are often characterized by community participation at different stages of the project cycle such as planning, decision making, implementation monitoring and evaluation among others. According to Goodman et al and Minkler et al (Goodman, Thompson, Thompson, & Hood, 2018; Minkler & Wallerstein, 2008), community participation during project planning is important because of its ability to strengthen the capacity of community members and subsequently improving the overall wellbeing of the community. In particular, Minkler and co-workers acknowledge the importance of involving community members at the initiation stages of the project because of its ability to improve the member's

capacity to identify problems and participate in decision-making, and consequently translating problems into solutions.

Farmers' participation is an important ingredient if sustainable agriculture is to be attained in rural areas. Farmers' participation is a matter of concern at both national and local level (Farshid, 2011; Marston et al., 2013; R Subedi, 2008). Absence of participation means no partnerships, no developments, no sustainability and therefore no program (Barasa & Jelagat, 2013) (Aref et al., 2010). Therefore, ignoring community participation during decision making to implement an agricultural policy result into costly failures of an agricultural development project. In this study participation means the involvement of farmers in decision making, collaboration and interaction with agricultural organizations.

Farmers' participation is regarded as an important ingredient to attain community support for agricultural development projects (Farshid, 2011; Olajuyigbe & Olajuyigbe, 2016). Farmers' participation means peoples' involvement in agricultural activities. It plays an important role by advancing the quality of life and project success(Morrow & Scorgie-Porter, 2017; Putnam, 2000). Conceptualization of participation is provided by some scholars (Anucha Leksakundilok, 2014; Kontogeorgopoulos, 2005; Masud, Aldakhil, Nassani, & Azam, 2017), but they do not directly deal with community-based nursery projects. Therefore, the study seeks to demonstrate a typology of farmers' involvement in community-based coffee nurseries. The promoters of community participation have argued that if the local populace are to benefit from any rural development programme aimed at changing their standard of living, they must be involved at the initial stages of the project so that they are part of decision-

making. Community involvement or stakeholder involvement has been regarded as an important component of sustainable development because the needs, views, opinions and interests of those affected are considered.

Community participation in implementation of rural projects involves an act of having common purpose that is shared by all stakeholders of the development project. In this case every member of the community is directed towards a specific goal or purpose, which is well understood and shared by all members within the project development process. This is what scholars refer to as popular participation in development projects, and which has been identified as positive move in the managing the affairs that affect community members (Adesida, Okunlola, Angel, & Mazorra, 2015; McCarthy & Zald, 2006). (Morrow & Scorgie-Porter, 2017) emphatically in the United States of America, community participation approaches have gained a positive influence by enhancing food security and gained momentum in multiple settings. Participation of the community members as primary stakeholders at the initial implementation phase of the project has been identified as lackluster, regardless of the fact that local involvement in project implementation framework was made to be a key requirement.

Community participation is regarded as sociological process where individuals residing within an area or a community organize themselves to improve the affairs of daily life (Nutrition, water, sanitation, health, education). It encompasses different levels of individual or collective involvement (financial and/or material contributions, social cultural and /or political commitment) at different levels of a project. It dictates that stakeholders set up different management committees in charge of different activities (Subash,

2002).(Subash,2002) contributes that community participation is regarded as a process in which community members are involved at different stages the project cycle so as to build the capacity of the community members and be able to maintain the services of the project beyond the project time duration after the facilitating agency has left.

Jagosh e*t al*. (2015); Simane & Zaitchik, (2014) argues that in the past community participation was regarded as a success when community members contributed labour, financial, time, upfront contribution by communities during project construction, but presently it means that community memebrs must be actively engaged in project development activities from the initials stages and beyond the project time duration. (Ademola, 2008) also concurs that there are number of ways in which community members can contribute and states them as financial, materials, technical skills and general involvement in project related activities and providing moral support, rules and regulations that govern, assist in the process of repairing and maintaining community social infrastructure. The researcher intends to establish the contribution of community members and the extent to which their participated in the implementation of coffee nursery projects.

Community participation implemented throughout the whole project cycle that's to say from project design and implementation to monitoring and evaluation, ensures that the needs and priorities of the community members in the activities of the project considered. This motivates the community members to maintain and operate project activities after the project has closed. According to Mansuri and Rao(Mansuri & Rao, 2004) community-based projects are commonly performed in an area referred to as a "community". This is usually an

administratively defined unit such as a district, sub county, parish or village, a tribal area, or a municipal, or a common interest group, such as a community of poachers. It's a common phenomenon in development policy literature to use the terms without much qualification, to symbolize a culturally and politically homogeneous social system. In this study, community will refer to village members with interest in coffee nursery projects. The researcher explored their level of participation in planning for the coffee nurseries, their involvement at decision making and implementation of the community coffee nursery projects.

2.3 Factors that affect participation in Community-based Projects

Community participation involves engaging of all stakeholders in the project area that will be impacted on by the project throughout the project cycle. (Ahmad & Abu Talib, 2015) emphasizes that for participation efforts to be rendered effectively in development, all people should have equal access to decentralized organizations. Such organizations should acknowledge the needs and priorities of the local community and address them as soon as possible to avoid community members losing faith in the ability of the local organization. It has also been stressed that, participation is dependent on benefits expected to be derived from the project (Pomeroy et al., 1997; Too & Bajracharya, 2015); and that the membership of farmers group influences participation in an agricultural project because of an increased interest in farmers' organization which is an effective approach in farmer participation research (FPR)(Farshid, 2011; Rabindra Subedi, 2008). (Ademola, 2008) reported that farmer in irrigation projects farmer participation was dependent on trust between the implementing agency and farmer communities as well as clearly defined of roles and responsibilities

stakeholders. Further studies(Farshid, 2011; Jayne & Rashid, 2013) contend that participation in community-based projects was as a result of participants' level of knowledge, skills and assurance of long-term benefits from the agricultural resource. Thus, agricultural development projects require considerable resources to implement. Active participation of local communities can only be achieved if individuals have access to local resources. Weak financial abilities by men and women do not only reduce their ability to participate but also affect their potential to afford the enabling services from the agricultural development project.

Farmers' participation can be achieved through empowerment, partnership, interaction, consultation, informing, and manipulation. Ignorance is highly viewed as significant obstacle to farmers' participation in projects(Farshid, 2011).

Participation of farmers in project planning and decision- making, benefits to those who participate, and project organization are contributing factors to farmers' participation(Aref et al., 2010). According to Achieng and Kaliba(Achieng' Wanyera, n.d.; Kaliba, 2002), most agricultural community projects that do not include farmers or local ethics at design level fail due to lack of recommendations on the culture and socio economic characteristics from the local community. The projects continue to fail due to lack of appropriate technologies that address the needs of the target groups. (Caleb Wafula Wasilwa, 2015; Simane & Zaitchik, 2014) suggest that lack of participation of the target group in all stages of the projects is responsible for poor adoption and failure of agricultural projects. They noted that, local community members are continuously not given chance to participate in

decisions that affect their daily lives. Although Government technocrats and experts support the proposition of participation in principle, there is no harmony at implementation. Contrastingly,(Mansuri & Rao, 2004) stresses that involving local groups for local knowledge has strong weaknesses because their knowledge and skills are not based on scientific reasoning as such their solutions based on very limited scientific understanding of processes in projects. Elsewhere(Altieri & Masera, 1993; Fraser, Dougill, Mabee, Reed, & McAlpine, 2006; Madon et al., 2018), it has been stated that, top- down approach in project execution is among the major factors causing failure in most agricultural projects, the approach builds on farmers' experience rather than fostering and building the abilities of farmers. Participatory approach has been emphasized as important and popular and every researcher has adopted it both in research and implementation of community projects. Development partners are more interested in knowing which type of participatory method should, when and how in regard to the traditional research tools rather than asking whether it will be used (Goodman et al., 2018).

2.4 The effect of participation on sustainability of Community-based Projects

Participatory framework helps to recognize farmers, strengths and opportunities as well as limitations that can be considered for research projects. (Alam et al., 2012; Chandran & Chackacherry, 2004) points out that, the location of farming land along the canal greatly influenced farmers participation in irrigation projects in India. Distant farmers from the canal usually experience water scarcity and that had a negative impact on their participation. There has been an

increasing trend in project sustainability due to community member involvement resulting into ownership and management schemes at the grass root. A collection of authors (Alam et al., 2012; Azizi Khalkheili & Zamani, 2009; Barasa & Jelagat, 2013; Jagosh et al., 2015; Olajuyigbe & Olajuyigbe, 2016) support the fact that local member participation increases project effectiveness and efficiency. In most of their findings, they recommend that there should be adequate community involvement at the initial stages of the planning the project. They contend that participation of members in projects breeds effectiveness and enhances the achievement the intended objectives. It also enhances the capacity of the beneficiaries during project implementation actives by participating in project training and planning. Accordingly, (Rabindra Subedi, 2008), asserts that, women involvement in agricultural related projects shows a significant impact on the projects sustainability. Research conducted on community projects in fifteen countries revealed that projects were women were involved become sustainable as compared to those projects where never involved. This confirms the results by the World Bank where women participation was linked to water and sanitation projects sustainability, effectiveness and efficiency (Mansuri & Rao, 2004). As women become increasingly active in decision making, they provide education to children, information on matters of sanitation and hygiene, they build the capacity of the community members and mobilization of political will towards community projects. It can be inferred that; community participation is essential in all community development projects implemented in rural areas. It creates an enabling environment that enhances cooperation within community members to assist one another. By working together for a common purpose and acknowledging to use their different skills

and resources, famers are able to achieve sustainable development and moving away from poverty.

The International Rescue Committee (2012) suggested that, to enhance participation educational learning centers should be established at regional level to document information relating to every good practice and innovation. Research conducted by(Matzke & Nabane, 1996; Mutandwa & Gadzirayi, 2007; World Bank, 2008), on agricultural projects in the Zambezi Valley, recorded total failure of community projects due to lack of involvement of the local people at all the stages of the project and thus never regarded the facilities theirs. They considered the facilities as something that was originated from outside and therefore not their responsibility to participate in its activities. A study undertaken to determine the effect of community participation on sustainability of projects, it was pointed out that lack of participation at all levels of the project retards sustainability of projects (Paul, 1987). On stakeholders ownership, studies conducted by (Pollnac & Pomeroy, 2005; Pomeroy, Oracion, Pollnac, & Caballes, 2005; Pomeroy et al., 1997) revealed that a number of community projects fail to deliver the intended benefits in a sustainable way due to lack of ownership and good will from the stakeholders and lack commitment to community projects.

Some possible steps to achieve sustainability as suggested by (Pomeroy et al., 2005) include making sure that the initial design of the project includes participatory strategies and that ample time and resources are attached and treated as in important investment for the success of the project; Clearly stating the duties and responsibilities of the intended beneficiaries; defining the extent

of participation and the type and finally making sure that all teams are accomplished in participatory approaches.

2.5 Organization of coffee nursery groups under CBCNPs with UCDA

A coffee nursery group comprises between 20 – 30 members. Each group has four leaders (chairperson, vice chairperson, treasury, in-charge for nursery management and resource mobilisation) democratically elected by members, from within the group. Membership is drawn from existing or intending coffee farming residents. The nurseries are usually located in coffee growing communities and in close proximity to a permanent water source. The major incentives to groups are that members would plant their own raised coffee seedlings and therefore are in control of the variety and quality of the seedlings. Additionally, UCDA supports CBCNPs with quality seed, shade nets, chemicals and tools. Nursery group members are expected to actively participate in nursery activities to raise coffee seedlings and establish coffee gardens. All nursery group members are to contribute resources inform of labour, poles, money, nursery site and watering. Local area leaders have a role of sensitizing communities on the benefits of the CBCNPs as well as to contribute local resources to the projects. Extension officers offer training to coffee nursery group members in coffee seedlings production and technical guidance on coffee farming as a business.

2.6 Summary of the literature review and gaps identified

Community approaches recognize the abilities of the target population like skill and resources, improve on them to deliver safe guards and solution to promote

the community's goals. Community-based projects are often characterized by community participation at all stages of the project in planning, decision making, implementation, monitoring and evaluation among others. Involving the Communities to participate in planning of projects is of great significance because it enhances and builds the capacity and overall welfare of the community members. Participation of farmers 'in rural agricultural development is a prerequisite for sustainable agriculture. Participation of Farmers' issues are areas of concern both at local community level and at the national. Without farmer's participation, there are no partnerships, good will, trust, cooperation, unity and ownership therefore there is no project and no development.

Group Membership influences participation in community agricultural projects because of increasing interest among farmers which motivates them to participate research (FPR). The participation of Farmers in rural community irrigation projects is influenced by the trust built between the implementing organization and farmers in addition to clearly stated roles and responsibilities as well as clear tasks, roles and responsibilities of different stakeholders. The participation of farmers 'in community-based interventions was based on skills and level of acknowledge possessed by farmers and guaranteed long term benefits from the project beyond the project's life span and an improved agricultural resource. Participatory approaches help to identify limitations and opportunities that can be included in research projects as well as their monitoring and evaluation. It also helps in monitoring and evaluation of rural development projects. The gap identified is that most studies have been conducted on community-based projects without specifically focusing at coffee nursery projects. Therefore, it remains un known whether community participation

influences the sustainability of community-based coffee nursery projects, and to what extent, the literature gaps which this study aims to fill.

2.7 Conceptual framework

Basing on models by Aref, *et al.* (2010) and Aref (2011), a conceptual framework for evaluating the determinants of the success for Community-based Coffee Projects was constructed as in Figure 1 below.

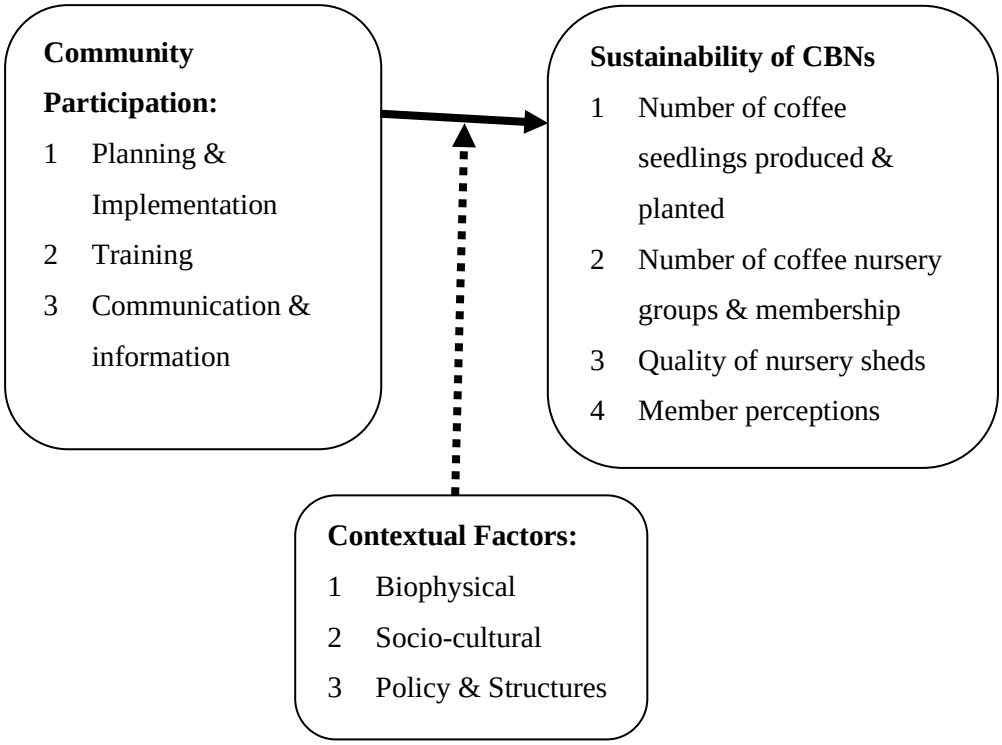

Figure 1: A conceptual framework for evaluating the determinants of the success for Community-based coffee Nurseries

The conceptual framework shows that the characteristics of community-based projects include participation of farmers in planning, decision making and in implementation. Farmers' perception of farming practices, environmental issues and agricultural in puts also determine the success of community-based projects. The conceptual framework further shows that factors which militate against

community-based projects include inadequate resources, insufficient technology and weak extension and training services. On the other hand, utilization of agricultural inputs and participatory training facilitate the success of community-based projects.

CHAPTER THREE: METHODOLOGY

3.1 Research Design

The study used a cross sectional descriptive design where qualitative and quantitative approaches were used. A cross sectional survey design is simple, less time consuming and of low cost. In this study, the researcher related community participation variables to the sustainability of CBCNPs.

3.2 Study area

The study investigated the influence of participation on the sustainability of Community-Based Coffee Nursery projects in Kasese district by comparison of Kilembe and Mahango sub counties. The study focused on three specific objectives namely, the key characteristics of Community-based Coffee Nurseries, the level of member participation in the management and operations of the CBNP and the relationship between member participation and sustainability of CBNP.

3.3 Study Population

The study population included stakeholders of Community-based Coffee Nursery projects in Mahango and Kilembe Sub counties in Kasese District as identified in Table 1.

3.4 Sample size, Selection and Sampling techniques

The sample population included, coffee nursery groups' members, UCDA extension officers, sub county extension officers, local leaders and farmers who

planted coffee seedlings from the nurseries. Random and purposive sampling were used depending on participants' roles and knowledge about this study.

3.4.1 Members of nursery groups

This study used focus group discussions as one of the data collection methods; every nursery project (46 nurseries) was treated as a group. Usually, each group has between 20 -30 members. However, It had been suggested that focus group discussions could comprise between 5-12 participants, depending on the importance of the study, and knowledge of participants (Liamputtong, 2015; McQuarrie & Krueger, 2006; Morgan, 2014). In this study, each focus group comprised 10 members, randomly selected. Group leaders were involved in discussions; therefore, they were chosen purposively based on their leadership positions. As each focus group had 10 persons, 4 were group leaders (each group had 4 leaders according to establishment rules), and 6 members selected randomly.

As there were 46 nurseries in Kilembe Sub County, therefore, the total number of leaders in focus groups was 4x46 = 184. The total number of members in focus groups was 6x46 = 276. These numbers were the same for Mahango Sub County with 46 nursery groups.

Considering constraints of time and resources, 10 focus group discussions were conducted. Each focus group comprised of 10 members selected randomly (leaders & members) in both Kilembe and Mahango sub counties.

3.4.2 Uganda Coffee Development Authority extension officers

Since only two Coffee extension officers were assigned on the particular project in Kasese district, they were both utilized for responses in the study.

3.4.3 Sub County Chairpersons (LCI11)

The LC III Chairpersons were contacted since they participated as farmers and as supervisors by default.

3.4.4 Sub County Agricultural Extension Officers

Four Sub County Agricultural Extension Officers participated in the project, and were contacted for responses.

3.4.5 District agriculture officer (DAO)

The DAO was by default a supervisor and participated in the project implementation.

3.4.6 Community-based Coffee Nursery host farmers

A total of 92 farmers hosted nurseries for both Mahango and Kilembe Sub counties. A sample size was determined according to methods described by Krejcie and Morgan (1970) as shown in equation 1; and the subsequent table for small populations, detailed in their publication.

$$s = X^2NP(1-P) + d^2(N-1) + X^2P(1-P) \ldots\ldots\ldots\ldots\ldots Equation\ 1$$

s = required sample size. X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841). *N* = the population size. *P* = the population proportion (assumed to be .50 since this would provide the maximum

sample size). *d* = the degree of accuracy expressed as a proportion (.05). The sample size, according to the cited authors, was 76.

3.4.7 Coffee farmers who planted coffee from Community-based Coffee Nurseries

According to UCDA (2016), at least 1000 farmers, who also included members outside the project groups, received coffee seedlings for planting. Based on the method by Krejcie and Morgan(1970), a sample size for these farmers was 278. Table 1 details sample sizes for the different population targets.

Table 1: The population and sampling frame

Category	Target Population (N)	Sample Size (S)	Sampling Technique
Uganda Coffee Development Authority Regional coffee Extension officers.	2	2	Purposive
Community-based Coffee Nursery host farmers	92	76	Simple random
Coffee farmers who planted coffee from Community-based Coffee Nurseries	1000	278	Simple random
Sub-county chairperson (LCI11)	2	2	Purposive
Sub county Agricultural Extension Officers	4	4	Purposive
District agriculture officer (DAO)	1	1	Purposive
Total	1,101	363	

Source of (N):(UCDA, 2013, 2017) Reports on Community-based Nurseries and Seedlings

3.5 Data collection methods and tools

Data was assembled using relevant instruments determined by the method and type of data needed. These involved use of questionnaires for surveys, focus group guides for focus group discussions, observation checklists for observations, and archived documents (online, libraries etc.) for documentary review. The methods are detailed in the sections below.

3.5.1 Questionnaire survey

Comprehensive questionnaires were used to collect data and information from respondents. The method provided standardized responses easy to analyze. Questionnaire survey increased the likelihood of obtaining information and it is also convenient than interviews. It also enabled the researcher to involve a large number of respondents with minimum cost and minimal staff involvement. Besides, the questionnaires can also be filled out whenever the respondent has time. The nature of research questions with “How”, “what” makes questionnaire survey appropriate for the study. In this study, questionnaire survey applied to Extension workers, LCIII Chairpersons, and the DAO.

3.5.2 Observation

Primary data from the field was collected using observation and a list of items to be observed during the study process were listed such as the state of the community-based coffee nursery sites and coffee farms. This methodology enabled the researcher follow up on the information from the respondents especially on the status of the community-based coffee nurseries and coffee farms.

3.5.3 Documentary review

Documents were reviewed in order to obtain recorded information that is related to the study. This method was chosen because it has several advantages such as accessing data at a convenient time, thoughtfulness of the data by the informants, obtaining data in the language of the respondents. Such data included information for literature, discussion and comparison with similar projects elsewhere.

3.5.4 Questionnaire

To save time and increase objectivity of respondents, the questionnaire was considered as suitable. The questionnaire included a standard Likert scale of 1-5; where 1= strongly disagree, 2= disagree, 3= neutral, 4= agree and 5= strongly agree, questionnaires with sets of predetermined closed ended questions were self-administered to respondents of the study. The questionnaires were designed for regional coffee extension officers and local government Sub County extension officers. Open ended questions and close ended questions were used where applicable. Open ended questions were used because they gave respondents provision to give their views independently and freely. Questionnaires were used because they maintained the confidentiality of respondents and data was obtained within a short time. Questionnaires enhanced privacy and information was free from the researcher's possible bias as asserted (Appendix 1 presents questionnaire used in the study).

3.5.5 Observation checklist

Observations from the field were recorded using a log book were each content was recorded using a specific format for easy identification of different actors and events. The data gathered from observation was synthesized and registered. Validation of the data generated from questionnaire and interviews was done by comparing it with data from observation. Basing on the checklist, the researcher observed physical coffee nursery sites and coffee farms.

3.5.6 Documentary review checklist

The quantity of material that one can study is influenced by the amount of time and relevancy of that material to the study. Familiarity with different categories of evidence and the use of a checklist helped the researcher make decisions about what is fundamental to the study and controlled selection was done to guarantee that no significant category of information was left. The researcher studied minutes of meetings about coffee nurseries, coffee annual reports and regional reports about coffee nursery establishments, coffee seedlings distribution and planting.

3.5.7 Focus group discussion guide

For coffee nursery group members, a focus group discussion guide was applied. This tool was used to gather concerted information on extent of participation, motivation, and constraints among others. A guide was useful in keeping the discussion within context, save time and collect only relevant data. For ethical consideration all participating individuals filled consent forms in advance.

3.5.8 Validity and reliability of the instruments

A smaller population was used as pilot study to test the appropriateness of the research instruments.

3.6 Data analysis

The data generated was organized, interpreted and edited for uniformity, completeness, and accuracy; a codding frame was used to classify answers to different questions into mutually exclusive, exhaustive and representative categories. Qualitative and quantitative data was analyzed relating to the objectives of the study as stated below.

3.6.1 The quantitative data analysis

Quantitative data was entered according to codes that were developed during construction of the instruments. Descriptive statistics, was subsequently used to analyze data using percentages, mean, and standard deviations to illustrate the general trend of results. Accordingly, Pearson product movement correlation and simple multiple regression was used to establish the relationship between member participation and sustainability of CBNP

3.6.2 The qualitative data analysis

Qualitative data was analyzed using content analysis through which responses of the interviews are categorized according to major descriptive themes that are developed after data collection. The results from focus group discussions and the observation were integrated with the results from quantitative analysis.

3.7 Ethical consideration

Confidentiality of all the research findings by the researcher was done by seeking consent of all the respondents before administering the questionnaires. This enabled the respondents to participate willingly.

Furthermore, the researcher acknowledges all sources of information to avoid plagiarism. For anonymity and confidentiality, respondent's names were withheld for future prospects.

CHAPTER FOUR: PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Response rate

The study targeted nine (9) key respondents that constituted of two (2) UCDA Regional Coffee Extension officers, two (2) Sub-county chairpersons, four (4) Sub county Agricultural Extension Officers and one (1) District agriculture officer and 354 questionnaire respondents that constituted of 76 Community-based Coffee Nursery host farmers and 278 Coffee farmers who planted coffee from Community-based Coffee Nurseries. Six (6) key informants responded to the interviews giving a response rate of 66.7% and 288 respondents answered the questionnaire giving a response rate of 81.4%%. The overall response rate for the study was therefore 81.0% as shown in Table 2.

Table 2: Response rate

Category	**Sample Size**	**Responses**	**Response rate**
Uganda Coffee Development Authority Regional coffee Extension officers.	2	1	50.0%
Sub-county chairpersons	2	1	50.0%
Sub county Agricultural Extension Officers	4	3	75.0%
District Agriculture Officer	1	1	100.0%
Community-based Coffee Nursery host farmers	76	73	96.1%
Coffee farmers who planted coffee from Community-based Coffee Nurseries	278	215	**77.3%**
Total	363	294	90.0%

Source: Primary data

The summary of the response rate for the study in Table 2 above indicates that data was collected from a sufficient number of respondents; hence the collected data and the findings from it can be relied on. According to Mugenda and Mugenda (2009) a response rate of 50 per cent is adequate for analysis and reporting; a rate of 60 per cent is good and a response rate of 70 per cent and above is excellent.

4.2 Background information

In this section, the researcher presents the background information of the 288 coffee farmers (73 host farmers + 215 other farmers) r that filled the questionnaire. The sub-county of the respondent, the leadership position held in the CBN and the number of years spent in CBN were collected.

4.2.1. Sub-county

Respondents were requested to indicate their sub counties, so as to compare the findings between the sub-counties. The findings about the sub-counties are shown in the table 3 below.

Table 3: Sub county

Sub County	Frequency	Percent
Kilembe	130	45.1
Mahango	158	54.9
Total	288	100.0

Source: Primary Data (2020)

Table 3 shows that the majority of the questionnaire respondents, 158 (54.9%) were from Mahango sub-county, whereas 130 (45.1%) were from Kilembe

sub-county. Mahango Sub County had more respondents because the extension officers had lists of the persons that were members of the project.

4.2.2 Respondents' leadership position in the CBN

Respondents were requested to indicate their leadership position in the CBN, so as to establish the roles they are playing and the findings are presented in the table 4.

Table 4: Respondents' leadership position in the CBN

Position	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Chairman	39	30.0	8	5.1
Vice Chairman	8	6.2	-	-
Treasurer	24	18.5	8	5.1
Secretary	16	12.3	-	-
Member	43	33.1	142	89.9
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 4 shows that although Mahango had more respondents (158) compared to Kilembe (130), Kilembe had 39 (30.0%) chairmen compared to only 8 (5.1%) chairmen. Similarly, Kilembe had more Treasurers, 24 (18.5%) compared to Mahango, 8 (5.1%). However, Mahango had a high number of members participate in the survey, 142 (89.9%) compared to Kilembe, 43 (33.1%). While Kilembe had secretaries and vice chairmen participated in the study, Mahango had none of such categories. These findings suggest that the Kilembe leadership participated more in community-based coffee nurseries compared to Mahango. A high number of members from Mahango participating in the study is an

indication that the many members are working on their own without guidance from the leadership.

4.2.3. Number of years in CBN

Respondents were requested to indicate the year they joined the CBNs so as to establish the duration they have been involved in the CBNs and the findings are presented in table 5.

Table 5: Duration respondents have been members of CBN

Number of years in CBN	Kilembe		Mahango	
	Frequency	**Percent**	**Frequency**	**Percent**
Less than 10 years	39	30.0	32	20.3
10 years and above	91	70.0	126	79.7
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 5 shows that the majority of the respondents from both Kilembe (70.0%) and Mahango (79.7%) have been members of their respective CBNs for 10 years and above. This implies that the majority of the respondents from both sub-counties were conversant with the characteristics of community-based coffee nurseries and they could determine the level of member participation in the management and operations of the CBNs.

4.3 Key findings

The key findings are presented using descriptive statistics of frequencies (absolute numbers and percentages) to describe and summarize the findings, and

using inferential statistics of Adjusted R Square and ANOVA to examine the effect of participation on sustainability of CBNs.

4.3.1 To examine the key characteristics of Community-based Coffee Nurseries in Kasese District in terms of structure, membership and operations

A number of key characteristics were collected from the respondents/farmers and the findings are presented in this section. Table 6 shows that in each of each of the sub-counties, the highest number of CBNs were started in 2009: Kilembe (40.0%) and Mahango (69.2%), followed by those started in 2011 in Kilembe (33.3%) and 2010 in Mahango (15.4%). This is an indication that the majority of the CBNs in each of the sub-counties have been in existence for over 4 years. This clearly shows that the CBNs were important to the community since they provided coffee seedlings for establishing new coffee gardens and seedlings for gap filling in the already existing coffee gardens.

Table 6: Year the CBN started

Year started	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
2009	6	40.0	9	69.2
2010	4	26.6	2	15.4
2011	5	33.3	1	7.7
2013	0	0.0	1	7.7
Total	15	100.0	13	100.0

Source: Primary Data (2020)

Table 7 shows that in each of each of the sub-counties, the highest number of CBNs have 20 – 29 Members: Kilembe (93.3%) and Mahango (84.6%). This is

an indication that there is no difference in membership between the two sub-counties.

Table 7: Number of members

Number of members	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Less than 20 members	0	0.0	2	15.4
20 - 29 members	14	93.3	11	84.6
30 - 39 members	1	6.7	0	0.0
40 members and above	0	0.0	0	0.0
Total	15	100.0	13	100.0

Source: Primary Data (2020)

Table 8 shows that in each of each of the sub-counties, the highest number of CBNs were externally initiated: Kilembe (53.3%) and Mahango (61.5%), followed by those that are self-help projects: Kilembe (33.3%) and Mahango (30. 7%). The findings suggest that the community was not empowered to create community projects as solution to their coffee seedlings needs through community projects without external support.

Table 8: How CBNs started

How CBNs started	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Self-help project	5	33.3	4	30.7
Externally initiated	8	53.3	8	61.5
Community project	2	13.3	1	7.7
Total	15	100.0	13	100.0

Source: Primary Data (2020)

Table 9 shows that in each of each of the sub-counties, the majority of the farmers were men: Kilembe (64.6%) and Mahango (79.1%). These findings suggest that men dominate the membership of CBNs. It was also established that in all the groups the number of members in leadership range between 3 – 4 people.

Table 9: Gender that comprises majority of membership

Gender	Kilembe		Mahango	
	Frequency	**Percent**	**Frequency**	**Percent**
Men	84	64.6	125	79.1
Women	46	35.4	33	20.9
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 10 shows that the most important requirement to become member of a CBN was being a coffee farmer and being a resident in the sub county. However, any interested person can become a member and being able to contribute resources was equally a requirement. Although payment of membership fee was also cited as a requirement, it wasn't cited by many farmers.

Table 10: Requirement to become member of a CBN

Requirements	Kilembe		Mahango	
	Frequency	**Percent**	**Frequency**	**Percent**
Coffee farmers	122	93.8	158	100.0
Resident in the sub county	130	100.0	151	95.6
Any interested person	129	99.2	135	85.4
Contributing resources	121	93.1	115	72.8
Membership fee	70	53.8	43	27.2

Source: Primary Data (2020)

While rating how resources for running CBN activities are mobilized, a number of resources for running CBN activities were identified and respondents were asked to rank how they are mobilized and below are the findings:

Coffee farmers' contribution was one the dimension for used to measure resources for running CBN activities. Table 11 shows that coffee farmers' contribution was generally rated high in both sub-counties; 21 (16.2%) rated it as important and 109 (83.8%) rated it as very important in Kilembe, whereas 79 (50.0%) rated it as important and 55 (34.8%) rated it as very important in Mahango. This means that all the farmers rated coffee farmers' contribution as high in Kilembe, whereas 84.8% rated it as high in Mahango. The findings indicate that Farmers contribution was important in the two sub counties. It showed commitment of the members to sustaining the CBNs so as to continue the production of the coffee seedlings.

Table 11: Coffee farmers' contribution

Coffee farmers' contribution	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
A bit important	0	0.0	8	5.1
Fairly important	0	0.0	16	10.1
Important	21	16.2	79	50.0
Very important	109	83.8	55	34.8
Total	130	100.0	158	100.0

Source: Primary Data (2020)

UCDA was one of the dimensions used to measure resources for running CBN activities. Table 12 shows that UCDA was rated high in Kilembe as compared to Mahango; 20(15.4%) rated it as important and 109 (83.8%) rated it as very

important in Kilembe, whereas 63 (39.9%) rated it as important and 36 (22.8%) rated it as very important in Mahango. This means that 98.9% of the farmers rated UCDA highly in Kilembe, whereas only 62.7% rated it highly in Mahango. The findings indicate that UCDA the Government coffee Agency was more visible in Kilembe Sub County than Mahango Sub County. UCDA is the Government Agency charged with the responsibility of providing specific coffee extension to farmers. This means the farmers in Kilembe Sub County had better in coffee seedlings production

Table 12: Importance of UCDA

UCDA	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Not important			16	10.1
A bit important			16	10.1
Fairly important	1	.8	27	17.1
Important	20	15.4	63	39.9
Very important	109	83.8	36	22.8
Total	130	100.0	158	100.0

Source: Primary Data (2020)

NAADS was one the dimension for used to measure resources for running CBN activities. Table 13 shows that NAADS was rated low in Mahango as compared to Kilembe; 70 (44.3%) rated it as not important and 48 (30.4%) rated it as a bit important in Mahango, whereas 8 (6.2%) rated it as not important and 16 (12.3%) rated it as a bit important in Kilembe. This means that 74.7% of the farmers rated NAADS low in Mahango, whereas only 18.5% rated it low in Kilembe. NAADS is Government agency mandated with the responsibility of

providing advisory services to farmers. This means the farmers in Mahango Sub County had minimal or no advisory services.

Table 13: NAADS

NAADS	Kilembe		Mahango	
	Frequency	**Percent**	**Frequency**	**Percent**
Not important	8	6.2	70	44.3
A bit important	16	12.3	48	30.4
Fairly important	17	13.1	31	19.6
Important	12	9.2	8	5.1
Very important	77	59.2	1	.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Grants was one of the dimensions used to measure resources for running CBN activities. Table 14 shows that Grants was rated low in Mahango as compared to Kilembe; 95 (60.1%) rated it as not important and 32 (20.3%) rated it as a bit important in Mahango, whereas 24 (18.5%) rated it as not important and 16 (12.3%) rated it as a bit important in Kilembe.

Table 14: Importance of grants

Grants	Kilembe		Mahango	
	Frequency	**Percent**	**Frequency**	**Percent**
Not important	24	18.5	95	60.1
A bit important	16	12.3	32	20.3
Fairly important	8	6.2	23	14.6
Important	13	10.0	7	4.4
Very important	69	53.1	1	.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

This means that 80.4% of the farmers rated Grants low in Mahango, whereas only 31.8% rated it low in Kilembe. Grants are used in meeting the costs related to managing the CBNs. This means the farmers in Mahango Sub County had challenges in meeting the costs of managing the CBNs than the farmers in Kilembe Sub County

Sales of seedlings were one of the dimensions used to measure resources for running CBN activities. Table 15 shows that sales of seedlings were rated high in Kilembe as compared to Mahango; 24 (18.5%) rated it as important and 77 (59.2%) rated it as very important in Kilembe, whereas only 1 (0.6%) rated it very important in Mahango. This means that 77.7% of the farmers rated sales of seedlings high in Kilembe, whereas only 0.6% rated it high Mahango. Selling seedlings means there was a cash income to the CBNs. This means managers of the CBNs in Kilembe Sub County had money to meet the operational costs of managing CBNs as compared to Mahango Sub County.

Table 15: Sales of seedlings

Sales of seedlings	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Not important	12	9.2	62	39.2
A bit important	8	6.2	52	32.9
Fairly important	9	6.9	43	27.2
Important	24	18.5	0	0.0
Very important	77	59.2	1	.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

There were other dimensions that were used to measure resources for running CBN activities. Table 16 shows that others were rated by only 9 farmers from Kilembe as compared to 15 farmers from Mahango. The findings indicate that there were others supports in kind from well-wishers that enabled the sustainability of CBNS in Kilembe Sub County as Compared to Mahango Sub County.

Table 16: Others

Others	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Not important				
A bit important				
Fairly important	1	11.1	15	100.0
Important	8	88.9		
Very important				
Total	9	100.0	15	100.0

Source: Primary Data (2020)

When rating the extent members contribute towards operations of CBNs, information was sought about the extent members contribute towards operations of CBNs in terms of different items and resources and the findings were as follows:

Land was one of the resources on which information was sought about the extent to which members contribute and the findings are shown in Table 17. Findings reveal that land was rated high in Kilembe as compared to Mahango; 17 (13.1%) rated it as often and 113 (86.9%) rated it as regularly, whereas 86 (54.4%) rated it as often and 44 (27.8%) rated it regularly in Mahango. This means all the

farmers rated land highly in Kilembe, compared to 82.2% in Mahango. Land is key in establishing CBNs and their sustainability. This means land for establishing CBNs was more readily available in Kilembe Sub County as compared to Mahango Sub County.

Table 17: Land

Land	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Sometimes	0	0.0	28	17.7
Often	17	13.1	86	54.4
Regularly	113	86.9	44	27.8
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Funds were one of the resources on which information was sought about the extent to which members contribute and the findings are shown in Table 18.

Table 18: Funds

Funds	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Not at all	0	0.0	32	20.3
Once in a while	8	6.2	12	7.6
Often	25	19.2	93	58.9
Regularly	97	74.6	21	13.3
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Findings reveal that funds were generally rated high in Kilembe and Mahango; 25 (19.2%) rated it as often and 97 (74.6%) rated it as regularly, whereas 93 (58.9%) rated it as often and 21 (13.3%) rated it regularly in Mahango. This

means 93.8% of the farmers rated funds highly in Kilembe, compared to 72.2% in Mahango. Funds are used to meet the operational costs of running the CBNs. This means the CBNs in Kilembe Sub County had funds to meet the operational costs of running a CBN than in Mahango Sub County.

Labour was one of the resources on which information was sought about the extent to which members contribute and the findings are shown in Table 19. Findings reveal that labour was rated high in Kilembe as compared to Mahango; 25 (19.2%) rated it as often and 105 (80.8%) rated it as regularly, whereas 54 (34.2%) rated it as often and 80 (50.6%) rated it regularly in Mahango. This means all the farmers rated labour highly in Kilembe, compared to 84.8% in Mahango. Labour is very key in running and sustaining CBNs, this means there was labour to run the CBNs in Kilembe sub county as compared to Mahango Sub County.

Table 19: Contribution of labour

Labour	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Sometimes			24	15.2
Often	25	19.2	54	34.2
Regularly	105	80.8	80	50.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Nursery chemicals were one of the resources on which information was sought about the extent to which members contribute and the findings are shown in Table 20. Findings reveal that nursery chemicals were rated high in Kilembe as compared to Mahango; 17 (13.1%) rated them as often and 105 (80.8%) rated

them as regularly, whereas 82 (51.9%) rated them as often and 48 (30.4%) rated then as regularly in Mahango. This means 93.9% of the farmers rated nursery chemicals highly in Kilembe, compared to 82.3% in Mahango. Chemicals help to manage or eliminate pests and diseases in CBNs so as to reduce mortality of coffee seedlings in CBCNs. This means there was minimal or no mortality of coffee seedlings in CBCNs in Kilembe sub county as compared to the CBCNs in Mahango Sub County.

Table 20: Nursery chemicals

Nursery chemicals	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Once in a while			8	5.1
Sometimes	8	6.2	20	12.7
Often	17	13.1	82	51.9
Regularly	105	80.8	48	30.4
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Potting soil was one of the resources on which information was sought about the extent to which members contribute and the findings are shown in Table 21. Findings reveal that Potting soil was rated high in Mahango as compared to Kilembe; 62 (39.2%) rated it as often and 88 (55.7%) rated it as regularly in Mahango, whereas 25 (19.2%) rated it as often and 81 (62.3%) rated it as regularly in Kilembe. This means 94.9% of the farmer's rated potting soil highly in Mahango, compared to 81.5% in Kilembe. Potting soil is important in seedlings production. This means potting soil was more readily available in Mahango as compared to Kilembe Sub County.

Table 21: Potting soil

Potting soil	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Once in a while	8	6.2		
Sometimes	16	12.3	8	5.1
Often	25	19.2	62	39.2
Regularly	81	62.3	88	55.7
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Water was one of the resources on which information was sought about the extent to which members contribute and the findings are shown in Table 22.

Table 22: Water

Water	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Not at all				
Once in a while				
Sometimes	8	6.2	24	15.2
Often	17	13.1	39	24.7
Regularly	105	80.8	95	60.1
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Findings reveal that water was rated high in Kilembe as compared to Mahango; 17(13.1%) rated it as often and 105 (80.8%) rated it as regularly in Kilembe, whereas 39 (24.7%) rated it as often and 95 (60.1%) rated it as regularly in Mahango. This means 93.9% of the farmers rated water highly in Kilembe, compared to 84.8% in Mahango. Water is a very key resource in plant growth.

This means the coffee seedlings in CBCNs of Kilembe Sub County had higher chances of growth as compared to CBCNs Mahango Sub County.

Construction materials were one of the resources on which information was sought about the extent to which members contribute and the findings are shown in Table 23. Findings reveal that construction materials were rated high in Kilembe as compared to Mahango; 33 (25.4%) rated them as often and 89 (68.5%) rated them as regularly in Kilembe, whereas 51 (32.3%) rated them as often and 83 (52.5%) rated them as regularly in Mahango. This means 93.9% of the farmers rated construction materials highly in Kilembe, compared to 84.8% in Mahango. Construction materials are important in providing shade to coffee seedlings in CBCNs. This means the CBCNs in Kilembe Sub County had better shade and thus reduced mortality as compared to Mahango Sub County.

Table 23: Construction materials

Construction materials	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Once in a while			8	5.1
Sometimes	8	6.2	16	10.1
Often	33	25.4	51	32.3
Regularly	89	68.5	83	52.5
Total	130	100.0	158	100.0

Source: Primary Data (2020)

There were other resources on which information was sought about the extent to which members contribute and the findings are shown in Table 24. Findings reveal that only 24 farmers contributed towards other resources from Kilembe and 16 from Mahango.

Table 24: Others

Others	Kilembe		Mahango	
	Frequency	**Percent**	**Frequency**	**Percent**
Sometimes	8	50.0	8	50.0
Often	16	50.0		
Regularly			8	50.0
Total	24	100.0	16	100.0

Source: Primary Data (2020)

The extent CBN members had been trained in a number of areas was rated during FGDs. When members were asked about the kind of training activities that are extended to their CBNs, several were cited such as seedling production, pest and disease control, coffee management, site selection, record keeping, among others. Information was collected about the extent CBN members have been trained in a number of areas and the findings are shown in the tables below.

Site preparation was one of the training areas that were considered in the research study and the findings are shown in Table 25. Findings reveal that training in site preparation was rated high both in Kilembe and Mahango; 60 (46.2%) rated it as often and 54 (41.5%) rated it as regularly in Kilembe, whereas 99 (62.7%) rated it as often and 51 (32.3%) rated it as regularly in Mahango. This means the majority, 87.7% rated site preparation training high in Kilembe and similarly the majority, 95.0% rate it high in Mahango. Site preparation is important at the early stages of coffee seedlings production to avoid pets and diseases. These means coffee seedlings had better chances of growth with minimal mortality in both Mahango and Kilembe sub counties.

Table 25: Site preparation

Site preparation	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Sometimes	16	12.3	8	5.1
Often	60	46.2	99	62.7
Regularly	54	41.5	51	32.3
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Potting and watering was one of the training areas that were considered in the research study and the findings are shown in Table 26. Findings reveal that training in potting and watering was rated high both in Kilembe and Mahango; 59 (45.4%) rated it as often and 62 (47.7%) rated it as regularly in Kilembe, whereas 92 (58.2%) rated it as often and 59 (37.3%) rated it as regularly in Mahango. This means the majority, 93.1% rated potting and watering training high in Kilembe and similarly the majority, 95.5% rated it high in Mahango. Potting and watering is very key in seedling growth. This means that all coffee seedlings in CBCNs in both Mahango and Kilembe sub counties had equal chances of growth.

Table 26: Potting and watering

Potting and watering	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Sometimes	9	6.9	7	4.4
Often	59	45.4	92	58.2
Regularly	62	47.7	59	37.3
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Pest and diseases was one of the training areas that were considered in the research study and the findings are shown in Table 27. Findings reveal that training in pest and diseases was rated high both in Kilembe and Mahango; 44(33.8%) rated it as often and 70 (53.8%) rated it as regularly in Kilembe, whereas 75 (47.5%) rated it as often and 59 (37.3%) rated it as regularly in Mahango. This means the majority, 87.6% rated pest and diseases training high in Kilembe and similarly the majority, 84.8% rated it high in Mahango. Knowledge about managing pets and diseases is important in seedlings production to reduce mortality of the seedlings. This means chances of survival of seedlings in both sub counties were high since farmers in both sub counties were trained.

Table 27: Pests and diseases

Pest and diseases	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Once in a while	16	12.3	0	0.0
Sometimes	0	0.0	24	15.2
Often	44	33.8	75	47.5
Regularly	70	53.8	59	37.3
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Preparing for planting was one of the training areas that were considered in the research study and the findings are shown in Table 28. Findings reveal that training in preparing for planting was rated high both in Kilembe and Mahango; 48 (36.9%) rated it as often and 74 (56.9%) rated it as regularly in Kilembe, whereas 87 (55.1%) rated it as often and 63 (39.9%) rated it as regularly in

Mahango. This means the majority, 93.8% rated preparing for planting training high in Kilembe and similarly the majority, 95.0% rated it high in Mahango. Land preparation is important in coffee farming to enable early establishment of the young coffee seedling.

Table 28: Preparing for planting

Preparing for planting	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Sometimes	8	6.2	8	5.1
Often	48	36.9	87	55.1
Regularly	74	56.9	63	39.9
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Sorting and distribution was one of the training areas that were considered in the research study and the findings are shown in Table 29.

Table 29: Sorting and distribution

Sorting and distribution	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Often	40	30.8	71	44.9
Regularly	90	69.2	87	55.1
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Findings reveal that training in sorting and distribution was rated high both in Kilembe and Mahango; 40 (30.8%) rated it as often and 90 (69.2%) rated it as regularly in Kilembe, whereas 71 (44.9%) rated it as often and 87 (55.1%) rated it as regularly in Mahango. This means that all the famers rated sorting and distribution training high in Kilembe and similarly all the farmers rated it high

in Mahango. Sorting coffee seedlings enables farmers to only plant health and disease free seedlings. This means farmers in both sub counties had access to disease free coffee seedlings from their CBCNs.

Record keeping was one of the training areas that were considered in the research study and the findings are shown in Table 30. Findings reveal that training in record keeping was rated high both in Kilembe and Mahango; 40 (30.8%) rated it as often and 58 (44.6%) rated it as regularly in Kilembe, whereas 71 (44.9%) rated it as often and 40 (25.3%) rated it as regularly in Mahango. This means the majority, 75.4% rated record keeping training high in Kilembe and similarly the majority, 70.2% rated it high in Mahango. Records enable farmers to keep track of their routine activities for better planning.

Table 30: Record keeping

Record keeping	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Not at all	8	6.2	47	29.7
Once in a while	16	12.3	0	0.0
Sometimes	8	6.2	0	0.0
Often	40	30.8	71	44.9
Regularly	58	44.6	40	25.3
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 31 shows that farmers in Kilembe attended other trainings different from those categorized as compared to their counterparts in Mahango. This suggests that generally farmers in Kilembe have had more training compared to those in Mahango.

Table 31: Other training areas

Other areas	Kilembe		Mahango	
	Frequency	**Percent**	**Frequency**	**Percent**
Once in a while	0 (0.0)	24 (8.3)	0	0.0
Sometimes	8	53.3	0	0.0
Often	7	46.7	0	0.0
Total	15	100.0	0	0.0

Source: Primary Data (2020)

4.3.2 To determine the level of member participation in the management and operations of the CBNP

The level of member participation in the management and operations of the CBNP was measured on the questionnaire using fourteen statements/items and the findings are presented in the tables below. Qualitative findings from key informants and FGDs were used to supplement the quantitative findings.

Table 32 shows that the highest number of respondents in Kilembe (46.9%) agreed that CBNs have adequate material and financial resources; and 45(34.6%) agreed and 16 (12.3%) strongly agreed. However, the majority in Mahango (84.8%) disagreed that that CBNs have adequate material and financial resources; 126 (79.7%) strongly disagreed and 8 (5.1%) disagreed. This suggests that CBNs in Kilembe generally have adequate material and financial resources compared to their counterparts in Mahango.

Table 32: Material and financial resources

Our CBN has adequate material and financial resources	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	8	6.2	126	79.7
Disagree	8	6.2	8	5.1
Neither Disagree Nor Agree	53	40.8	7	4.4
Agree	16	12.3	16	10.1
Strongly Agree	45	34.6	1	.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 33 shows that the majority of the respondents in Kilembe (93.1%) agreed that members have the required skills to take care of coffee nurseries; and 35(26.9%) agreed and 86 (66.2%) strongly agreed.

Table 33: Required skills to take care of coffee nurseries

Members have the required skills to take care of coffee nurseries	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Disagree			16	10.1
Neither Disagree Nor Agree	9	6.9	30	19.0
Agree	35	26.9	103	65.2
Strongly Agree	86	66.2	9	5.7
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Similarly, the majority in Mahango (70.9%) agreed that that members have the required skills to take care of coffee nurseries; 9 (5.7%) strongly agreed and 103

(65.2%) agreed. This suggests that more farmers in Kilembe have the required skills to take care of coffee nurseriescompared to their counterparts in Mahango.

Table 34 shows that the majority of the respondents in Kilembe (87.61%) agreed that members clearly understand the specific goal of the CBN; and 44(33.8%) agreed and 70 (53.8%) strongly agreed.

Table 34: Specific goal of the CBN

Members clearly understand the specific goal of the CBN	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Disagree	0	0.0	8	5.1
Neither Disagree Nor Agree	16	12.3	47	29.7
Agree	44	33.8	94	59.5
Strongly Agree	70	53.8	9	5.7
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Similarly, the majority in Mahango (65.2%) agreed that that members clearly understand the specific goal of the CBN; 9 (5.7%) strongly agreed and 94 (59.5%) agreed (Table 34). This suggests that more farmers in Kilembe have the clear understanding of the specific goal of the CBN compared to their counterparts in Mahango. During FGDs in Kilembe members were asked about their expectations regarding the CBN goals and objectives and there were several views given: One discussant pointed out as thus; *"I expect the seedlings to be planted by members of the nursery group as well as some farmers"*. Another explained; *"Seedlings that are produced by the group should be shared by group members"*. In Mahango when a similar question was raised one discussant was

of the view; *"The group should be able to produce enough seedlings for all community members and be able to improve on the household incomes".*

Table 35 shows that the majority of the respondents in Kilembe (80.7%) agreed that members provide material support to ensure sustainability of their CBNs; 35(26.9%) agreed and 70 (54.8%) strongly agreed. However, the majority in Mahango only (45.5%) agreed that that members provide material support to ensure sustainability of their CBNs; 1 (0.6%) strongly agreed and 71 (44.9) agreed. This suggests that more members in Kilembe generally provide material support to ensure sustainability of their CBNs compared to their counterparts in Mahango.

Table 35: Material support

Members provide material support to ensure sustainability of our CBN	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Disagree	0	0.0	32	20.3
Neither Disagree Nor Agree	25	19.2	54	34.2
Agree	35	26.9	71	44.9
Strongly Agree	70	53.8	1	.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 36 shows that the majority of the respondents in Kilembe (87.7%) agreed that there is transparency and accountability amongst their CBN members; 52(40.0%) agreed and 62 (47.7%) strongly agreed. However, in Mahango only 40.5% agreed that that there is transparency and accountability amongst their CBN members; 1 (0.6%) strongly agreed and 63 (39.9%) agreed. This suggests

that there is more transparency and accountability amongst CBN membersin Kilembe compared to Mahango

Table 36: Transparency and accountability of CBN members

There is transparency and accountability amongst our CBN members	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Disagree	0	0.0	24	15.2
Neither Disagree Nor Agree	16	12.3	70	44.3
Agree	52	40.0	63	39.9
Strongly Agree	62	47.7	1	0.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 37 shows that the majority of the respondents in Kilembe (87.0%) agreed thatmembers always attend and participate in group meetings; 60(46.2%) agreed and 53 (40.8%) strongly agreed.

Table 37: Attendance and participation in group meetings

Members always attend and participate in group meetings	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Disagree	0	0.0	32	20.3
Neither Disagree Nor Agree	17	13.1	61	38.6
Agree	60	46.2	64	40.5
Strongly Agree	53	40.8	1	.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

However, in Mahango only 41.1% agreed that members always attend and participate in group meetings; 1 (0.6%) strongly agreed and 64 (40.5%) agreed (Table 37). This suggests that there more attendance and participation in group meetings in Kilembe compared to Mahango.

Table 38 shows that the majority of the respondents in Kilembe (93.9%) agreed that members participate in CBN group activities; 76(58.5%) agreed and 46 (35.4%) strongly agreed.

Table 38: Participation in CBN group activities

Members participate in CBN group activities	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Disagree	0	0.0	16	10.1
Neither Disagree Nor Agree	8	6.2	55	34.8
Agree	76	58.5	71	44.9
Strongly Agree	46	35.4	16	10.1
Total	130	100.0	158	100.0

Source: Primary Data (2020)

However, in Mahango only 55.0% agreed that members participate in CBN group activities; 16 (10.1%) strongly agreed and 71 (44.9%) agreed (Table 38). This suggests that there is more participation in CBN group activities in Kilembe compared to Mahango. When discussants in FGDs in Kilembe were asked to comment on member participation in group and nursery activities (equal opportunity, leader's assignments and interest by members) a number of views were shared. One discussant explained; *"The majority of the members are very participatory in group activities including watering nurseries and pricking"*.

When the same question was raised in a FGD in Mahango, one discussant explained as thus: *"Members generally take part, however, there are some members that are passive in group activities and the same people do not regularly attend group meetings"*. In another FGD in Kilembe a discussant elaborated on equal opportunities amongst members, leaders' assignments and interest by members; *"Leaders usually accord equal opportunities for all members to participate in whatever activities are available. However, this depends on the interests of individual group members. It is difficult to give opportunity to a member that has not shown in interest in an activity"*.

Table 39 shows that the majority of the respondents in Kilembe (87.7%) agreed thattheir CBNs have a significant number of youths, comprising at least 10%; 53 (40.8%) agreed and 61 (46.9%) strongly agreed.

Table 39: Youth membership

Our CBN has a significant number of youths (at least 10%)	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Disagree	16	12.3	32	20.3
Neither Disagree Nor Agree	0	0.0	70	44.3
Agree	53	40.8	55	34.8
Strongly Agree	61	46.9	1	0.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

However, in Mahango only 35.4% agreed that their CBNs have a significant number of youths, comprising at least 10%; 1 (0.6%) strongly agreed and 55 (34.8%) agreed (Table 39). This suggests that there are more youth in CBNs in Kilembe compared to Mahango.

During FGDs in Kilembe discussants were asked to comment on the involvement of youths in CNB and it was established that youth are involved at all levels within CBNs. One discussant revealed as thus; *"Youth are involved in group activities at the different levels and are also participating in group leadership"*. However, when the same question was raised in Mahango, one discussant said; *"The group leaderships have endeavoured to involve the youth in group activities, however, the (youths) have been reluctant to take part in group activities. They are also not regular at attending group meetings".*

Table 40 shows that the majority of the respondents in Kilembe (93.9%) agreed thatmembers are involved in the selection of group leaders; 76 (58.5%) agreed and 46 (35.4%) strongly agreed. However, in Mahango only 55.1% agreed that members are involved in the selection of group leaders; 9 (5.7%) strongly agreed and 78 (49.4%) agreed. This suggests that there are more members are involved in the selection of group leaders in Kilembe compared to Mahango.

During a FGD in Kilembe, it came out unanimously that members take part in the selection of group leaders. One discussant said; "*Our leaders are selected by voting. The one with the highest number of votes becomes the leader for a particular position*". Another discussant explained that although leaders are selected through voting, they also put into consideration their competency and leadership history; *"Leaders are selected by group members basing on their leadership history and knowledge in nurseries"*. However, In Mahango, when the same issue was discussed, one discussant explained as thus; *"Leaders are selected by voting based on their competencies, however meeting called to select new members are normally attended by few members. Many group members are not very enthuastic about change in leadership".*

Table 40: Selection of group leaders

Members are involved in the selection of group leaders	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Disagree	0	0.0	8	5.1
Neither Disagree Nor Agree	8	6.2	63	39.9
Agree	76	58.5	78	49.4
Strongly Agree	46	35.4	9	5.7
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 41 shows that the majority of the respondents in Kilembe (87.7%) agreed thatgroup leaders consult members before carrying out any nursery decision; 60 (46.2%) agreed and 54 (41.5%) strongly agreed. However, in Mahango only 34.8% agreed that group leaders consult members before carrying out any nursery decision; 1 (0.6%) strongly agreed and 54 (34.2%) agreed. This suggests that there is more consultation of members by group leaders before carrying out any nursery decision in Kilembe than Mahango.

When one FGD member in Kilembe was asked how decisions are taken in their CBN, it came out clearly that members are normally consulted before decisions are taken by leaders. One discussant pointed out; *"Decisions are taken by consulting members and where an issue is contentious we go ahead and vote the majority are respected"*. However, when the same issue was raised in Mahango, a discussant revealed as thus; *"In our group leaders tend to take decisions on assumption that the issue at hand is urgent and therefore there isn't enough time to consult members. However, at the earliest opportunity they usually come back and report about what took place and the decisions they took"*.

Table 41: Consultation with members

Group leaders consult members before carrying out any nursery decision	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	0	0.0	8	5.1
Disagree	0	0.0	24	15.2
Neither Disagree Nor Agree	16	12.3	71	44.9
Agree	60	46.2	54	34.2
Strongly Agree	54	41.5	1	.6
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 42 shows that the majority of the respondents in Kilembe (87.7%) agreed that members are involved in key decisions about the CBN; 67 (51.5%) agreed and 47 (36.2%) strongly agreed. However, in Mahango only 52.6% agreed that members are involved in key decisions about the CBN; 8 (5.1%) strongly agreed and 75 (47.5%) agreed. This suggests that there is more members are involved in key decisions about the CBN in Kilembe than Mahango.

Table 42: Key decisions about the CBN

Members are involved in key decisions about the CBN	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Strongly Disagree	0	0.0	8	5.1
Disagree	0	0.0	8	5.1
Neither Disagree Nor Agree	16	12.3	59	37.3
Agree	67	51.5	75	47.5
Strongly Agree	47	36.2	8	5.1
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 43 shows that the majority of the respondents in Kilembe (94.8%) agreed that all members have equal opportunity to participate in group and nursery activities; 67 (51.5%) agreed and 55 (42.3%) strongly agreed. However, in Mahango only 37.3% agreed that all members have equal opportunity to participate in group and nursery activities. This suggests that more members in Kilembe are accorded equal opportunity to participate in group and nursery activities than Mahango.

Table 43: Opportunity to participate in group and nursery activities

All members have equal opportunity to participate in group and nursery activities	**Kilembe**		**Mahango**	
	Frequency	**Percent**	**Frequency**	**Percent**
Strongly Disagree	0	0.0	8	5.1
Disagree	8	6.2	32	20.3
Neither Disagree Nor Agree	0	0.0	59	37.3
Agree	67	51.5	59	37.3
Strongly Agree	55	42.3	0	0.0
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 44 shows that all the respondents in Kilembe (100.0%) agreed that members participate in planning for nursery projects; 52 (40.0%) agreed and 60 (60.0%) strongly agreed. However, in Mahango only 42.4% agreed that members participate in planning for nursery projects. This suggests that more members in Kilembe participate in planning for nursery projects than Mahango. It came out clearly through the FGDs in Kilembe that members are given equally opportunity to participate in group and nursery activities. One discussant

explained; *"All members are given equal opportunity to participate in group and nursery activities and those that were willing to participate do without any hindrance"*.

Table 44: Participation in planning for nursery projects

Members participate in planning for nursery projects	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Disagree	0	0.0	24	15.2
Neither Disagree Nor Agree	0	0.0	67	42.4
Agree	52	40.0	67	42.4
Strongly Agree	78	60.0	0	0.0
Total	130	100.0	158	100.0

Source: Primary Data (2020)

Table 45 shows that the majority of the respondents in Kilembe (87.7%) agreed that members are interested in activities and continuity of the CBN project; 67 (51.5%) agreed and 47 (36.2%) strongly agreed.

Table 45: Project activities and continuity of the CBN project

Members are interested in activities and continuity of the CBN project	Kilembe		Mahango	
	Frequency	Percent	Frequency	Percent
Disagree	0	0.0	24	15.2
Neither Disagree Nor Agree	16	12.3	59	37.3
Agree	67	51.5	67	42.4
Strongly Agree	47	36.2	8	5.1
Total	130	100.0	158	100.0

Source: Primary Data (2020)

However, in Mahango only 47.5% agreed thatmembers are interested in activities and continuity of the CBN project; 8 (5.1%) strongly agreed and 67 (42.4%) agreed (Table 45). This suggests that more members in Kilembe are interested in activities and continuity of the CBN project than Mahango.

4.3.3 To establish the effect of member participation on sustainability of CBNP

In order establish the effect of member participation on sustainability of CBNP regression analysis was used. Member participation was measured in terms of Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training, whereas sustainability of CBNP was measured in two dimensions namely number of seedlings for each farmer and number of members in groups.

4.3.3.1 Effect of Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation, Members training on Numbers of Seedlings for each farmer.

To assess whether Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation, Members training have a significant effect on number of seedlings for each farmer, regression analysis was run and the coefficient of determination (R Square) and other statistics are presented in table 46. The table shows Pearson's correlation coefficient (R = 0.844), Coefficient of determination or R Square of 0.713 and Adjusted R Square of 0.669 for Kilembe, and a Pearson's correlation coefficient (R = 0.457),

Coefficient of determination or R Square of 0.209 and Adjusted R Square of 0.177 for Mahango.

Table 46: Model summary

Kilembe				Mahango			
Model	R	R Square	Adjusted R Square	Model	R	R Square	Adjusted R Square
1	.844[a]	.713	.699	1	.457[a]	.209	.177

[a] Predictors: (Constant), Membership, Members Contribution, Year CBN, Resources Mobilization, Members Participation, Members training

Source: Generated from primary data

An adjusted R Square of 0.669 for Kilembe means that Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training account for 66.9% of the variance in number of seedlings for each farmer within groups. This therefore means that apart from Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training there are other variables that/affect or influence number of seedlings for each farmer within groups in Kilembe.

Similarly, an adjusted R Square of 0.177 for Mahango means that Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training account for 17.7% of the variance in number of seedlings for each farmer within groups. This therefore means that apart from Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training there are other variables that/affect or influence number of seedlings for each farmer within groups in Mahango. An adjusted R Square of 0.669 for Kilembe and

0.177 for Mahango means that Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training have more influence on number of seedlings for farmers within groups in Kilembe as compared to Mahango.

To assess the overall significance of the regression model, Analysis of Variance (ANOVA) was generated and the results are presented in table 47.

Table 47: ANOVA Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation, Members training and number of seedlings for farmers within groups

Kilembe				**Mahango**			
Model	df	F	Sig.	Model	Df	F	Sig.
1	6	50.878	.000[b]	1	6	6.632	.000[b]

[a] Dependent Variable: Seedlings

[b] Predictors: (Constant), Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation, Members training

Source: Generated from primary data

In determining whether a regression model is significant, the decision rule is that the calculated p-value (level of significance) for ANOVA must be less than or equal to 0.05. Since the calculated p-values of 0.000[b]are each of them less than 0.05 (Kilembe and Mahango), the regression models were therefore found to be statistically significant (Kilembe: F=50.878, df = 6, $p<0.05$ (=0.000)) and (Mahango: F=6.632, df = 6, $p<0.05$ (=0.000)). This means that Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation and Members training have a statistically significant effect or influence on the number of seedlings for each farmer in both Kilembe and Mahango.

To assess which of the variables (Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation and Members training) have a significant effect on the number of seedlings for each farmer and further establish whether they are predictors of the number of seedlings for each farmer, Standardized Beta and t Coefficients were generated as shown in table 48:

Table 48: Regression coefficients

Regression Model	**Kilembe**			**Mahango**		
	Beta	**t**	**Sig.**	**Beta**	**t**	**Sig.**
(Constant)		4.481	.000		3.965	.000
Members Participation	.786	10.415	.000	.144	1.869	.064
Resources Mobilization	.094	1.206	.230	.119	1.475	.142
Members Contribution	.141	1.826	.070	.080	1.045	.298
Members training	.144	1.873	.064	.533	5.321	.000
Number of Years as CBN	.139	2.628	.010	.269	2.659	.009
Membership	.049	.851	.396	.299	3.376	.001

a. Dependent Variable: Seedlings

Source: Generated from primary data

For the magnitude to be significant the decision rule is that the t value must not be close to 0 and the p-value must be less than or equal to 0.05.

For member participation a t – value of 10.415 is not close to 0 and p-value<0.05 (=0.000) and for number of years as CBN a t-value of 2.628 is not close to 0 and p-value <0.05 (0.010), the study confirmed that member participation and number of years as CBN are predictors of number of seedlings for each farmer in Kilembe. In Mahango, however, Members training a t-value of 5.321 is not

close to 1 and p-value <0.05 (=0.000), for number of years as CBN a t – value of 2.659 is not close to 0 and p-value<0.05 (=0.009), and for membership a t-value of 3.376 is not close to 0 and p-value <0.05(0.001), the study confirmed that Members training, number of years as CBN and membership are predictors of number of seedlings for each farmer. Findings from regression analysis confirmed that member participation and number of years as CBN have a statistically significant positive effect on number of seedlings for each farmer in Kilembe and are therefore predictors of number of seedlings for each farmer in Kilembe, whereas members training, number of years as CBN and membership have a statistically significant positive effect on number of seedlings for each farmer in Mahango and are predictors of number of seedlings for each farmer in Mahango.

4.3.3.2 To establish the effect of Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation, Members training on Number of members in groups

To assess whether Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation, Members training have a significant effect on number of members in groups, regression analysis was run and the coefficient of determination (R Square) and other statistics are presented in table 49. The table shows Pearson's correlation coefficient (R = 0.937), Coefficient of determination or R Square of 0.878 and Adjusted R Square of 0.872 for Kilembe, and a Pearson's correlation coefficient (R = 0.892), Coefficient of determination or R Square of 0.796 and Adjusted R Square of 0.787 for Mahango

Table 49: Model summary

Kilembe				Mahango			
Model	R	R Square	Adjusted R Square	Model	R	R Square	Adjusted R Square
1	.937[a]	.878	.872	1	.892[a]	.796	.787

[a.] Predictors: (Constant), Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation, Members training

Source: Generated from primary data

An adjusted R Square of 0.872 for Kilembe means that Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training account for 87.2% of the variance in number of members in groups. This therefore means that apart from Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training there are other variables that/affect or influence number of members in groups in Kilembe.

Similarly, an adjusted R Square of 0.787 for Mahango means that Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training account for 78.7% of the variance in number of members in groups. This therefore means that apart from Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training there are other variables that/affect or influence number of members in groupsin Mahango.

An adjusted R Square of 0.872 for Kilembe and 0.787 for Mahango means that Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation and Members training have more influence on number of members in groupsin Kilembe as compared to Mahango.

To assess the overall significance of the regression model, Analysis of Variance (ANOVA) was generated and the results are presented in table 50.

Table 50: ANOVA Membership, Members Contribution, Number of Year as CBN, Resources Mobilization, Members Participation, Members training and Number of members in groups

Kilembe				**Mahango**			
Model	df	F	Sig.	Model	Df	F	Sig.
1	6	147.307	.000[b]	1	6	97.905	.000[b]

a. Dependent Variable: No of members

b. Predictors: (Constant), Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation, Members training

Source: Generated from primary data

In determining whether a regression model is significant, the decision rule is that the calculated p-value (level of significance) for ANOVA must be less than or equal to 0.05. Since the calculated p-values of 0.000[b]are each of them less than 0.05 (Kilembe and Mahango), the regression models were therefore found to be statistically significant (Kilembe: F=147.307, df = 6, $p<0.05$ (=0.000)) and (Mahango: F=97.905, df = 6, $p<0.05$ (=0.000)). This means that Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation and Members training have a statistically significant effect or influence on the number of members in groupsin both Kilembe and Mahango.

To assess which of the variables (Membership, Members Contribution, Number of Years as CBN, Resources Mobilization, Members Participation and Members training) have a significant effect on the number of members in groups and

further establish whether they are predictors of the number of members in groups, Standardized Beta and t Coefficients were generated as shown in table 51:

Table 51: Regression coefficients

Regression Model	Kilembe			Mahango		
	Beta	**t**	**Sig.**	**Beta**	**t**	**Sig.**
(Constant)		1.571	.119		1.741	.084
Members Participation	.148	3.012	.003	.187	4.769	.000
Resources Mobilization	.088	1.742	.084	.113	2.748	.007
Members Contribution	.111	2.215	.029	.068	1.744	.083
Members training	.105	2.100	.038	.177	3.472	.001
Number of Years as CBN	.078	2.273	.025	.164	3.191	.002
Membership	1.024	27.299	.000	.766	17.013	.000

a. Dependent Variable: No of members

Source: Generated from primary data

For the magnitude to be significant the decision rule is that the t value must not be close to 0 and the p-value must be less than or equal to 0.05.

In Kilembe, Member participation has a t – value of 3.012 that is not close to 0 and p-value<0.05 (=0.003), Members Contribution has a t – value of 2.215 that is not close to 0 and p-value<0.05 (=0.029), Members training has a t – value of 2.100 that is not close to 0 and p-value<0.05 (=0.038), Number of Years as CBN has a t – value of 2.273 that is not close to 0 and p-value<0.05 (=0.025) and Membership has a t – value of 27.299 that is not close to 0 and p-value<0.05 (=0.000). The study therefore confirmed that Membership, Members Contribution, Number of Years as CBN, Members Participation and Members training are predictors of the number of members in groups in Kilembe.

In Mahango, Membership has a t – value of 17.013 that is not close to 0 and p-value<0.05 (=0.000), Number of Years as CBN has a t – value of 3.191 that is not close to 0 and p-value<0.05 (=0.002), Resources Mobilization has a t – value of 2.748 that is not close to 0 and p-value<0.05 (=0.007), Members Participation has a t – value of 4.769 that is not close to 0 and p-value<0.05 (=0.000) and Members training has a t – value of 3.472 that is not close to 0 and p-value<0.05 (=0.001). The study therefore confirmed that Membership, Number of Years as CBN, Resources Mobilization, Members Participation and Members training are predictors of the number of members in groups in Mahango.

Findings from regression analysis confirmed that Membership, Members Contribution, Number of Years as CBN, Members Participation and Members training have a statistically significant positive effect on the number of members in groups in Kilembe and are therefore predictors of the number of members in groupsin Kilembe, whereas Membership, Number of Years as CBN, Resources Mobilization, Members Participation and Members training have a statistically significant positive effect on the number of members in groups in Mahango and are predictors of the number of members in groups.

CHAPTER 5: DISCUSSION OF FINDINGS

5.1 Discussion of the findings

In this section the researcher discusses the findings of the study regarding a relationship between member participation and sustainability of CBNP.

5.1.1 Member participation and sustainability of Community-based Nursery Projects

Study findings established that the majority of the CBNs both in Kilembe and Mahango were externally initiated organizations, while community projects constituted the smallest numbers. In relation to a study conducted by Oino and co-workers(Oino et al., 2015) (2015) it was stressed that, world over, community-based approaches in development, are the best tools for achieving project success and sustainability. This means that new CBNs in both Kilembe and Mahango should be started by the communities instead of being established externally by other organization. According to Save The Children, (2015) community-based approaches recognize the resilience abilities of the target population and build on them to deliver safeguards and solutions to promote the community‘s agenda. Community-based projects are often characterized by participation of members in different levels of the project such as planning, decision making, monitoring and implementation among others.

This is line with the current study findings that established that members are involved in key decisions about their CBNs and that all members have equal opportunity to participate in group and nursery activities. It was also established that members participate in planning for nursery projects and are interested in activities and continuity of the CBN project. In particular, Minkler and co-

workers contend that when members of the community are involved in all stages of the project it builds their ability to solve their own problems. This means that farmers' participation is as important as the project itself if sustainability is to be achieved. Absence of participation, means no cooperation's, partnerships, support among community members, no developments, and no program at all (Barasa & Jelagat, 2013) (Aref et al., 2010). Therefore, avoiding community members from participating in all stages of the agricultural projects results into total failure and loss of funds.

5.1.2 Factors that affect participation in Community-based Coffee Nursery Projects

Findings that established that both men and women participated in the CBN activities were in agreement with findings by Ahmad & Abu Talib, (2015) that indicated community participation involves team work of all community members irrespective of gender in all aspects of the project. Ahmad & Abu Talib, (2015) asserted that, for participation efforts to be rendered effective in community development, all members need to have access to local organization at that level. Such organizations should acknowledge their level of knowledge and concerns as priorities and address them to avoid communities losing trust in capacity the local organizations. The current study findings revealed that CBNs were collaborating with institutions like NAADS and UCDA to improve on their performance. Further studies(Farshid, 2011; Jayne & Rashid, 2013) contend that farmers participation in community-based projects was a result of their enhanced ability and expected benefits from the protected and improved community agricultural resources. Thus, agricultural development projects in communities require considerable resources for implementation and operation if sustainability

is to be achieved. Thus, it's important for rural communities to have access to resources for them to be active role in developing their community. Weak financial positions of local community members reduce their potential to play an active role in the community and also become unable to pay for the services. Similarly, study findings established that members are involved in key decisions about the CBN and that all members have equal opportunity to participate in group and nursery activities, members participate in planning for nursery projects and are interested in activities and continuity of the CBN project.

5.1.3 The effect of participation on Sustainability of Community-based Coffee nursery Projects

Study findings from regression analysis using coefficients revealed in Kilembe Members Participation, Members Contribution, Members training, Number of Years as CBN and Membership were the variables significantly contributing to number of members in groups and therefore sustainability of CBNs. However, in Mahango it was Members Participation, Resources Mobilization, Members training, Number of Years as CBN and Membership that were contributing to number of members in groups. The findings relate with a collection of authors Alam et al., 2012; Azizi Khalkheili & Zamani, (2009); Barasa & Jelagat, (2013); Jagosh et al., 2015; Olajuyigbe & Olajuyigbe, (2016) that support the fact that community participation increases project effectiveness and efficiency which results into sustainability. In most of their findings, they recognize that, there considerable effort to involve members of the community in all stages of the project. They contend that involvement of the community increases project effectiveness as it enhances achievement of objectives. Accordingly Rabindra Subedi, (2008), points out that women involvement in agricultural projects also

have a significant impact on their sustainability, the findings did not specifically look at women participation but looked at all farmers irrespective of gender.

Further findings from regression analysis using coefficients revealed in Kilembe Members Participation and Number of Years as CBN were the variables significantly contributing to number of seedlings for each farmer. However, in Mahango it was Members training, Number of Years as CBN and Membership that were contributing to number of seedlings for each farmer.

(Pomeroy et al., 2005) suggested some practical considerations to achieve sustainability which include allocating adequate time and resources at the initial stages of the project as an investment for success of the project; Making sure that the roles and responsibilities of all concerned are clearly stated and understood and that the implementers are competent and willing to apply participatory approaches.

CHAPTER 6: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of the findings

The study established that majority of the CBNs under study have been in existence for over 10 years and the majority of them have between 20-29 members. The majority of the CBNs both in Kilembe and Mahango are externally initiated organizations. Furthermore, findings established that in both sub-counties the three major qualifications to become a member of a CBN include: being resident in the sub county, being a coffee farmer and being an interested person in CBN.

Results further showed that level of member participation in the management and operations of the CBNP was higher in Kilembe as compared to Mahango Sub County.

It was established that member participation and number of years as CBN have a statistically significant positive effect on number of seedlings for each farmer in Kilembe, whereas members training, number of years as CBN and membership have a statistically significant positive effect on number of seedlings for each farmer in Mahango. Findings from regression analysis It was further established that Membership, Members Contribution, Number of Years as CBN, Members Participation and Members training have a statistically significant positive effect on the number of members in groups in Kilembe, whereas Membership, Number of Years as CBN, Resources Mobilization, Members Participation and Members training have a statistically significant positive effect on the number of members in groups in Mahango.

6.2 Conclusions

The conclusions are presented objective by objective based on the study findings and the discussions.

6.2.1 Member participation and sustainability of Community-based Projects

The study concluded that Members Participation and Number of Years as CBN were the significantly contributed to the number of seedlings for each farmer and hence sustainability in Kasese. However, in Mahango it was Members training, Number of Years as CBN and Membership that significantly contributed to number of seedlings for each farmer and hence sustainability.

6.2.2 Factors that affect participation in Community-based Projects

The study concluded that in Kilembe Members Participation, Members Contribution, Members training, Number of Years as CBN and Membership affect community-based projects in terms of the number of members in groups of CBNs. However, in Mahango it was Members Participation, Resources Mobilization, Members training, number of Years as CBN and Membership that that affect community-based projects in terms of number of members in groups of CBNs.

6.2.3 The effect of participation on sustainability of Community-based Projects

The study concluded that in Kilembe Members Participation, Members Contribution, Members training, Number of Years as CBN and Membership significantly contributed to number of members in groups and therefore

sustainability of CBNs. However, in Mahango it was Members Participation, Resources Mobilization, Members training, Number of Years as CBN and Membership that significantly contributed to number of members in groups and therefore sustainability of CBNs.

6.3 Recommendations

Based on the study conclusions the study made the following recommendations:

i) UCDA should encourage Coffee farmers to contribute towards nursery seedlings production so as to continue in sustaining the growth of the number of seedlings for each farmer.

ii) UCDA contribution towards nursery seedlings production should be encouraged to continue so as to sustain the growth of the number of seedlings for each farmer.

iii) Other government agencies in the coffee farming sector should start participating to promote nursery coffee seedlings production.

iv) Adequate materials and financial resources should be provided to CBNs to assist them to ensure sustainability of the CBNs.

v) CBNs should encourage members to always attend and participate in group meetings and they should also participate in CBN group activities.

vi) CBNs should continue to recruit youths to ensure sustainability of the CBNs.

vii) Members should continue getting involved in the selection of group leaders and group leaders consult members before carrying out any nursery decision.

viii) CBNs should encourage members to continue getting involved in key decisions about the CBN and they should be given equal opportunity to participate in group and nursery activities.

ix) CBNs should encourage members to participate in planning for nursery projects and should also get interested in activities and continuity of the CBN project.

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APPENDIX

Appendix I: List of CBNs

No	Name of CBN	Number of members that participated in the study	Year CBN started
1	Kibanda XVIV	8	2010
2	Kibanda	8	2010
3	Kibandana XVIII	7	2010
4	Kikube I	8	2009
5	Kilembe I	8	2010
6	Kilembe II	16	2009
7	Kilembe III	8	2009
8	Kilembe IV	8	2009
9	Kilembe IX	8	2011
10	Kilembe VI	8	2009
11	Kilembe VII	8	2009
12	Kilembe X	8	2011
13	Kilembe XII	8	2011
14	Kilembe XIX	4	2011
15	Kilembe XVI	15	2010
16	Mahago	44	2009
17	Mahago 4	16	2009
18	Mahago IX	4	2010
19	Mahago XII	8	2009
20	Mahago XIII	8	2009
21	Mahago XIV	16	2011
22	Mahago XV	8	2013
23	Mahago XVII	8	2009
24	Mahago1	32	2009
25	Mahanyo XI	7	2009
26	Mahanyo XVIII	7	2009
Total		288	