



ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

MA IN PROJECT MANAGEMENT

**Assessing Sustainability of Development Projects Implemented by
Nongovernmental Organizations in Ethiopia: the case of Farm Africa
Ethiopia**

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MASTER OF ARTS DEGREE IN PROJECT MANAGEMENT

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Declaration

I , Beniam Tilahun, hereby declare that the study which is being presented in this thesis entitled “Assessing Sustainability of Development Projects Implemented by Nongovernmental Organizations in Ethiopia: the case of Farm Africa Ethiopia ” is my own original work.

It had not been presented this work for a partial fulfillment for any educational qualification at Addis Ababa University or any other university and in any projects by any means, and all the resources materials used for this thesis had been accordingly acknowledged.

Beniam Tilahun

Date:

Declaration

I hereby declare that the study which is being presented in this thesis entitled “Assessing Sustainability of Development Projects Implemented by Nongovernmental Organizations in Ethiopia: the case of Farm Africa Ethiopia” is conducted by Beniam Tilahun for the partial fulfillment of the requirements for the award of master’s degree in Project Management. To the best of my knowledge it is original work carried by him, it had not been presented for a partial fulfillment for any educational qualification at this university or any other and in any projects by any means.

Bahran Asrat (PhD)

Date:

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Acronyms

AFD - Action for Development

CBD - Community Based Development

CTA- The Technical Centre for Agricultural and Rural Cooperation

ERR- Economic Rate of Return

EU - European union

HH- Household

IUCN – International Union for Conservation of Nature

NGO – Non Governmental Organization

OECD/DAC- Development Assistance Committee of the Economic Cooperation and Development

OED - Operations Evaluation Department

PAP- Priority Action Program

SNNPR – South Nationals Nationalities and Peoples Region

SuPER - Sustainable, Productive, Equitable and Resilient Agriculture,

UNDP – United Nations Development Program

WCED - World Commission on Environment and Development

WWF – World Wild life Fund

Abstract

Farm Africa International humanitarian organization founded in 1985, working with smallholder farmers and forest communities, local governments and the private sector in Africa. The major objective of the study was to assess sustainability development projects implemented by NGOs and to study factors influencing sustainability of NGO Implemented projects in Ethiopia. The case of Farm Africa Ethiopia. Descriptive research design was used in order to determine factors' influence on sustainability projects. The projects selected as a case for this study was implemented 3 woredas of SNNPRS and 3 woredas in Amhara national regional state and these woredas was study areas of the study. 114 sample HH selected by using multistage probable sampling method. Structured questioner was used to collect data. The collected data analyzed by using quantitative data analysis method. From the studied two projects implemented by farm Africa Ethiopia, the project implemented in Amhara regional state was sustainable whereas the project implemented in SNNPR was not sustainable. The study concluded that close to 26% of the variation in the project sustainability is explained by level of community participation, community capacity building and Monitoring and evaluation practice of the project. Finally, to ensure project sustainability, the study recommended to develop standard project planning and implementation approach, increase meaningful community participation, establish well-functioning monitoring and evaluation system and practice and suggested for farther studies to identify other factors affecting sustainability of projects implemented by NGOs in Ethiopia.

CHAPTER 1: INTRODUCTION

This chapter organizes in the way to provide overall introduction about the research and covers background of the study, statement of the problem, research questions, research objective, significance of the study, scope of the study, Potential limitations of the study and Organization of the study. hypothetical research questions, and significance of the study.

1.1 Background of the study

According to Project management institute handbook a project is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources. And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. (www.pmi.org). A project is also explained as a concrete and organized effort that leads to the realization of a unique and innovative deliverable, which can be a product, service or process, or even a science research initiative, which is conceived based on a perceived opportunity. The project has a beginning and an end, which can sometimes serve as a new bedrock for a different project. It involves a plan, some processes, people and a line of authority; it contains inherent challenges and problems. (Mesly, 2017, p. 53)

Project may be implemented by different actors/organizations with different objective and goal. Business entities execute a project to produce new product or service, academic institutions conduct a research projects and developmental organizations implement development projects. Development projects may consist of a single, transformative project to address a specific problem or a series of projects targeted at addressing several problems. Development organizations prepare and implement development projects and work to strengthen the capabilities of local institutional and promote community self-reliance through sustainable strategies.

Project sustainability denotes the ability of a project to maintain its services, operations and benefits during its projected life time. In most development project actors, a project is assumed sustainable when a continued utilization of its results can be assured after the end of the project. Project sustainability aims at creating and launching a project capable of continuing to generate benefits after donor input has been withdrawn. Project sustainability is not something that happened at the end of the project but it is an effort that should be integrated from the onset of

project design. (Langran, 2002). Ensuring project sustainability by integrating and continuous effort in all stages of project life cycle enables to achieve sustainable development in the project intervention area.

Sustainable development is a systematic concept relating to the continuity of economic, social, institutional, and environmental aspects of human society as well as the non-human environment. It is characteristic of a process or state that a business can be maintained at a certain level indefinitely. The Brundtland Commission of the United Nations in 1987 defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” But the definition of sustainability may vary depending on the area of studies or interaction or the context or situations over many scales of space and time from small ones to global balance of production and consumption. (Morfaw, 2014)

Farm Africa International humanitarian organization founded in 1985, with a vision to see a prosperous rural Africa and working with smallholder farmers and forest communities, local governments and the private sector in East Africa. Farm Africa is an innovative charity that works to reduce poverty in rural eastern Africa by helping farmers grow more, sell more and sell for more: the organization help farmers to not only boost yields, but also gain access to markets, and add value to their produce. The organization works with a high priority on environmental sustainability and develop approaches that help farmers to improve their yields and incomes without degrading their natural resources.

Farm Africa start working in Ethiopia since 1988. Since 1988 up to 2019, farm Africa implemented 91 different projects in Ethiopia. Currently in Ethiopia, Farm Africa have been implementing 15 projects budgeted more than 2 billion Ethiopian Birr in most parts of the country in partnering with Government of Ethiopia and different local and international NGOs.

Accelerating the uptake of Climate – smart Agriculture for improved Agricultural productivity of Smallholder Farmers Project (funded by CTA (The Technical Centre for Agricultural and Rural Cooperation) through the European Union) and Enhancing Market Systems for Improved Sustainable Livelihoods project (Funded by Sweden International development agency) are two projects closed in 2018.

After the end of the project (after the project close) sustainability of these projects were not assessed and this research is mainly focused on assessing sustainability of these projects. Therefore, this study assessed these two projects as cases to reflect on sustainability of development projects and to measure the influence of different factors on projects sustainability.

1.2 Statement of the problem

Both governments and international development agencies are increasingly aware that development planning focuses mainly on project implementation and that much less attention is paid to issues of operation, maintenance, and sustainability. While many countries have developed sophisticated computer systems to monitor project implementation and to compare intended and actual physical and financial performance, few if any developing countries produce regular monitoring reports on project operation and maintenance and on whether projects are actually producing the intended benefits. Neither governments nor international development agencies receive systematic information on how well their investments are sustainable (Michael & Shabbir 2013, p.3).

Ensuring sustainability is a major challenge in development project intervention. Experience in the development sector reveals that project sustainability is a major issue. Though different organizations invest a lot of funds to ensure sustainability of their intervention, but ensuring sustainability of community development projects not fully achieved. Continuity of similar projects with the same objective in the same community is a good exhibit for difficulties of ensuring sustainability.

Due to this fact, most major development project donors request any development project implementer to clearly state how they ensure sustainability in their project proposal. European union is one of the major donors and according to European union (EU) funding guideline, an organization seeking funding in all of EU Structural and Investment Funds is required to demonstrate how its project will promote equality and sustainability. Projects must also show how they will minimize any adverse environmental impact. A failure to meet these requirements will disqualify an application.

Despite recent interest much less information is available on the sustainability of projects than on how well they are implemented. However, the limited available evidence suggests that project sustainability is a serious problem. The first Operations Evaluation Department (OED) review of project sustainability, published in 1985, covered 27 agricultural and 4 educational projects. Projects were classified as "sustained" if the estimated internal economic rate of return five years after the project began to operate was greater than or equal to the Economic Rate of Return (ERR) calculated at the completion of project implementation. In the first study it was found that only 9 out of 27 of the agriculture projects could be classified as "sustained," 8 more were "doubtful," and the remaining 10 were "not sustained." (Michael and Shabbir, 2013).

Most development projects sustainability evaluates by using Development Assistance Committee of the Economic Cooperation and Development (OECD/DAC) criteria and according to that criteria project Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn. Projects need to be environmentally as well as financially sustainable. When evaluating the sustainability of a program or a project, it is useful to consider the following questions: To what extent did the benefits of a program or project continue after donor funding ceased? What were the major factors which influenced the achievement or nonachievement of sustainability of the program or project? (Thomaz, 2008). Though it is still needing farther discussion on whether these two questions are enough to measure sustainability of the project, but the major challenge is that projects sustainability evaluated immediately after the end of the project. But sustainability is a matter of time that needs to see the project impact after the end of the project.

Project sustainability is defined by many economists and international development agencies as the capacity of a project to continue to deliver its intended benefits over a long period of time. According to Michael & Shabbir (as cited in Honadle and VanSant, 1985) project sustainability is

the percentage of project-initiated goods and services that is still delivered and maintained five years past the termination of donor resources, the continuation of local action stimulated by the project, and the generation of successor services and initiatives as a result of project built local capacity.

The world bank Operations Evaluation Department has defined it

The term "Sustainability" describes the ability of a project to maintain an acceptable level of benefit flows through its economic life. While this may often be expressed in quantitative terms involving the internal economic or financial rates of return, benefits may also be qualitatively assessed. (Michael & Shabbir 2013, p.7)

Therefore, this study focused to assess sustainability of project after a year and above of the project close and to inform future program designing. Additionally, the study assessed factors influencing sustainability of NGO's funded projects in Ethiopia and issues related to project sustainability with precise reference to Farm Africa Ethiopia funded and implemented projects.

1.3 Research questions

- I. To what extent do NGO implemented projects continue benefiting the community after their completion?
- II. To what extent does participation of local community in different stages of project cycle management influence sustainability of NGO implemented projects?
- III. To what extent does building the capacity of local institutions and community influence the sustainability of NGO implemented projects?
- IV. To what extent does project monitoring and evaluation practice influence the sustainability of NGO implemented projects?

1.4 Research objectives

General objective: The general objective of this study was to assess sustainability development projects implemented by NGOs and to study factors influencing sustainability of NGO Implemented projects in Ethiopia with particular focus to farm Africa Ethiopia Implemented projects in SNNPR and Amhara regional states of Ethiopia.

Specific objective:

- I. To assess extent of how NGO implemented projects continue benefiting the community after their completion
- II. To know to what extent local community participation in different stages of project cycle management affects sustainability of NGO implemented projects.

- III. To know to what extent local community and local institutions capacity building influence sustainability of NGO implemented projects.
- IV. To know to what extent project monitoring and evaluation practice influence sustainability of NGO implemented projects.

1.5 Significance of the study

It is hoped that, the findings of this study benefited NGOs who implemented community development projects by providing better understanding about project sustainability and factors affecting project sustainability. Particularly, this study will be useful in providing evidence-based information on the influence of community participation in all stages of project cycle management, the influence of project management structure, project monitoring and evaluation and capacity building on project sustainability. This study is meant to provide encouragement and support to eliminate the blanket assumptions on reasons for inappropriate community participation, monitoring and evaluation and capacity building activities on project planning and implementation. Finally, the study becomes a part of body of knowledge highlighting factors affecting project sustainability and the findings of the study contributed to additional knowledge and have recommended areas for more research.

1.6 Scope of the study

The study focused on assessing sustainability and factors affecting sustainability of development projects implanted by Farm Africa Ethiopia. Two projects selected for this study and the study focused only on these two projects. These are

1. Accelerating the uptake of Climate smart Agriculture for improved Agricultural productivity of Smallholder Farmers Project (that was implemented Hadero Tunto, Damot galle and halaba districts in SNNPR, Ethiopia)
2. Enhancing Market Systems for Improved Sustainable Livelihoods project (that was implemented in Ambasel, Tehuledere and Dewacheffa districts in Amhara national regional state, Ethiopia).

The target population for this study were direct beneficiaries of the projects. From the target population, sample responses for this study was selected by using probable sampling method and the relationship of project sustainability and factors affecting project sustainability analyzed by multiple regression method.

1.7 limitations of the study

The study target population located in two different and far regional states and this may challenge the data collection process in short period of time and limited budget. But the researcher applied digital data collection platform called Solstice world, that works without internet connection at the time of data collection to use time and cost effectively and efficiently.

1.8 Organization of the study

This study is organized by five chapters. The first chapter gives an introduction that covers background of the study, statement of the problem, research questions, research objectives, significance of the study, scope of the study, potential limitations of the study and definition of key terms. The second chapter gives a review of literature used in the study. Chapter three includes research design, description of study variables, description of study area and target population, sampling technique/methods and sample size, data collection source, types, instruments, data analysis model and techniques and reliability and validity analysis. Chapter four includes data analysis, data presentation and interpretation and chapter five includes summary of the findings, discussion, conclusion and recommendations.

1.9 Definition of key terms

Capacity building - Planned development of or increase in knowledge, output rate, management, skills, and other capabilities of a community through acquisition, incentives, technology, and/or training (Nadia, Querine and Nicholas 2017)

Community Development Projects - sets of unique and coordinated activities identified by NGOs, development agency and other stakeholders structured in a similar manner analogous to a vehicle for delivering a community development goal that addresses their felt need. (Michael & Shabbir 2013)

Community Participation - active involvement of the community in various facets of the project.

Monitoring and evaluation - continuous and periodic follow up to ensure project plans are followed.

Non-governmental organization (NGO)- Non-political and not for profit organization that advance particular set of causes in the community in public's interest.

Project cycle management - is the process of planning, organizing, coordinating, and controlling a project effectively and efficiently throughout its phases, from planning through execution then completion and review to achieve pre-defined objectives or satisfying the project stakeholder by producing the right deliverable at the right time, cost and quality.

Project sustainability - ability of a project to continue benefiting the community after the donor withdraws support.

Project - temporary action that has a defined beginning and end in time, and therefore defined scope and resources.

Sustainable development - is a systematic concept relating to the continuity of economic, social, institutional, and environmental aspects of human society as well as the non-human environment.

Target community – a group of people live in and around the project intervention area and benefiting from project outcomes.

CHAPTER 2: REVIEW OF RELATED LITERATURE

2.1. Introduction

In this chapter previous studies and theoretical literatures regarding NGO implemented project sustainability and related issues assessed in detail. This chapter is in a manner to give structured understanding about the concept of sustainable development, sustainable project management, characteristics of sustainable project, sustainability drivers and factors affecting project sustainability. Additionally, empirical evidences from researches conducted in the recent years also reviewed and included in this chapter.

2.2.Sustainable development: Concept and definition

The concept of sustainable development is very broad and due to this it is safe to state that there is not a single, commonly accepted concept of sustainable development. Different authors and organizations try to define it according to their context and the definition is also changing over time. In the below table 2.1, Tomislav (2018) summarizes definitions of sustainable development given by different authors and organizations starting from 1987 up to 2015.

Table 2.1 summarize definitions of sustainable development

Authors/publication and year	Meaning and understanding of sustainable development
WCED, 1987	Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
Pearce et al., 1989	Sustainable development implies a conceptual socio-economic system which ensures the sustainability of goals in the form of real income achievement and improvement of educational standards, health care and the overall quality of life.
Harwood, 1990	Sustainable development is unlimited developing system, where development is focused on achieving greater benefits for humans and more efficient resource use in balance with the environment required for all humans and all other species.

IUCN, UNDP & WWF, 1991	Sustainable development is a process of improving the quality of human life within the framework of carrying capacity of the sustainable ecosystems.
Lele, 1991	Sustainable development is a process of targeted changes that can be repeated forever.
Meadows, 1998	Sustainable development is a social construction derived from the long-term evolution of a highly complex system – human population and economic development integrated into ecosystems and biochemical processes of the Earth.
PAP/RAC, 1999	Sustainable development is development given by the carrying capacity of an ecosystem.
Vander-Merwe & Van-der-Merwe, 1999	Sustainable development is a program that changes the economic development process to ensure the basic quality of life, protecting valuable ecosystems and other communities at the same time.
Beck & Wilms, 2004	Sustainable development is a powerful global contradiction to the contemporary western culture and lifestyle.
Vare & Scott, 2007	Sustainable development is a process of changes, where resources are raised, the direction of investments is determined, the development of technology is focused and the work of different institutions is harmonized, thus the potential for achieving human needs and desires is increased as well.
Sterling, 2010	Sustainable development is a reconciliation of the economy and the environment on a new path of development that will enable the long-term sustainable development of humankind.
Marin et al., 2012	Sustainable development gives a possibility of time unlimited interaction between society, ecosystems and other living systems without impoverishing the key resources.
Duran et al., 2015	Sustainable development is a development that protects the environment, because a sustainable environment enables sustainable development.

Most of the above definitions reflects two major views on the concept of sustainable development. On one hand, the ecologists' view that associate's sustainability with the preservation of ecological systems. The definition of PAP/RAC (1999), Sterling (2010), Marin et al. (2012) and Duran et al. (2015) links sustainable development with ecological system preservation and protection. On

the other hand, Pearce et al. (1989), Vander-Merwe & Van-der-Merwe (1999) and Vare & Scott (2007) views sustainable development from economic point of view and consider sustainable development as maintenance and improvement of human living standards.

In the ecologists' view natural resources have a value that goes beyond their productive use and cannot be substituted by other forms of capital, within the economics view natural resources can be consumed and substituted by other forms of capital, as long as productive capacity is maintained. (Solow, 1999)

To harmonize economists and ecologists view, new view on sustainable development that views sustainability from three dimension (economy, ecology/environment and society) becomes prominent in the recent literatures. The most commonly accepted model to describe sustainability is the nested spheres model, also called the Venn diagram explanation (Figure 2.1). Sustainability can be illustrated as the place where the three dimensions overlap (Maria,2019)



Figure 2. 1: Venn diagram explanation of the nested spheres model for sustainable development

2.3.Project management and sustainability

Different projects and programs developed to achieve sustainable development and to ensure humankind's wellbeing by integrating economical, ecological and societal aspects of development.

In this case Projects play a pivotal role in the realization of sustainable development. This is the nexus point for project management and sustainable development. Though sustainable project management is critical to ensure sustainable development, but like the concept of sustainable development, there is no commonly agreed and widely used definition for the concept of sustainable project management.

In 2014 A.J. Gilbert and Ron P.J. published an article by conducting a structured review of 164 publications, covering the time period 1993 - 2013, that relate sustainability to project management. Based on their structured review they identify the below (table 2.2) summarized definitions for the concept of sustainable project management.

Table:2.2: summarized definitions of sustainable project management

Author	Definition of sustainable project management
Deland, 2009	Sustainable Project Management is minimizing the resources you and your team use to work a project from project initiation through close.
Ning, Zhang, & Li, 2009	Sustainable Project Management aims to apply the principle of meeting the needs of the day without compromising the benefits of future generations, to the construction industry by providing ways of buildings that use less virgin material and less energy, cause less pollution and less waste but still provide the benefits that construction projects have brought us throughout history.
Silvius et al.,2009	Sustainable Project Management is the management of project organized change in policies, assets or organizations, with consideration of the economic, social and environmental impact of the project, its result and its effect, for now and future generations.
Tam, 2010	Sustainable Project Management is the promoting of positive and minimizing of negative sustainability impacts (economic; environmental; and social) within the process by which projects are defined, planned, monitored, controlled and delivered such that the agreed benefits are realized and contributing to a sustainable society.

Silvius et al. ,2012	Sustainability in projects and project management is the development, delivery and management of project-organized change in policies, processes, resources, assets or organizations, with consideration of the following six principles of sustainability, in the project, its result and its effect. These six principles are: (1) balancing or harmonizing social, environmental and economic interests; (2) both short-term and long-term orientation; (3) both local and global orientation; (4) values and ethics; (5) transparency and accountability; and (6) consuming income, not capital
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The above listed definitions of sustainable project management have limitations on properly addressing the dimensions of sustainability, and also the impact of considering economic, social and ecological dimensions in project management. To address this gap, A.J. Gilbert and Ron P.J. ,2014, provides the below comprehensive definition for sustainable project management

Sustainable Project Management is the planning, monitoring and controlling of project delivery and support processes, with consideration of the environmental, economic and social aspects of the life-cycle of the project's resources, processes, deliverables and effects, aimed at realizing benefit for stakeholders, and performed in a transparent, fair and ethical way that includes proactive stakeholder participation.

In this definition, the dimensions of sustainability are addressed by referring environmental, economic and social aspects of sustainable development, the temporal and spatial dimensions of the life cycle of the project's resources, processes, deliverables and effects, the stakeholder engagement dimension and the values dimension.

2.4.Characteristics of Project Sustainability

Due to its subjectivity in different sectors, there is no agreed characteristics for sustainable projects. The characteristics of business projects sustainability is totally different from the characteristics of development projects. According to Morfaw (2014), most sustainable projects have the following seven characteristics.

Adaptability: In organizational management, adaptability is the ability to change something or oneself to fit in occurring changes and to cope with the unexpected disturbances in any

environment. In a system it is the ability to adapt itself to efficiently fast enough to changing circumstances. A sustainable project should therefore be open and able to fit in any changing environment or part of a system.

Audit Ability: An audit is often an evaluation of a person, organization, system, process, enterprise, project, or product. But this concept also applies to project management, quality management and for energy conservation. Audits are performed to ascertain the validity and reliability of information in order to express an opinion on something under evaluation and to provide a system of internal control. Because of increasing regulations and need for operational transparency, risk-based audits are being adopted by organizations to cover multiple regulations and standards in order to ensure credibility, good governance and sustainability.

Implement Ability: One fundamental principle in project management is that it should be realistic, feasible, attainable, and above all implementable in order for it to be sustainable in the market place.

Scalability: Scalability deals with the ability of a project to accommodate addition to its capacity or capabilities and expands its scope of operation. It also deals with its ability to increase in size, volume, quantity, or scope to accommodate unforeseen additional components or features of the project.

Extensibility: This is the ability to extend the project through the addition of new functions or modification of existing functions to effect change while minimizing existing project functions.

Maintainability: A project is sustainable when defects can be corrected, it is able to meet new requirements, future maintenance is made easier, and it can cope with the changing environment.

Manageability: A sustainable project should have an organizational structure specifying roles and responsibilities and duties. This will facilitate the management of the project and enhance its sustainability.

On the other hand, Sustainability-oriented business are characterized to follow a sustainability mission as an integral part and driving force of their organization and they operate as profit-oriented and self-sustaining business endeavors, that understand profit as a means to generate sustainable results (Sabrina and Thomas (cited in Cocklin, 2008)).

2.5. Project sustainability drivers

Different international project implementing and funding organizations identify driving factors for project sustainability and integrate mechanism to address these factors in their project lifecycle management process.

According to World Vision international (humanitarian organizations operates in more than 100 countries in the world), there are five basic factors that drive to ensure project sustainability. These are insuring local community ownership, partnering with all concerned stakeholders, conducting ongoing local and national advocacy, ensuring household and family level livelihood resilience and promoting transformed relationship. (World Vision's, Drivers of Sustainability, 2016)

CARE international is also another international humanitarian organization in different parts of the world, identified four drivers for livelihood related projects. These are ensuring healthy ecosystem management practices, strengthening stable, accountable and durable institutions and inclusive governance, providing access to financial services, quality inputs and other business development services on equitable terms and Build resilience for communities and systems. (CARE International SuPER, Four Principles for Sustainable, Productive, Equitable and Resilient Agriculture, 2015)

If sustainable development is to embody a real paradigm shift, it must be articulated based on a focus on social and controversial issues, a transdisciplinary approach with reasoning by complexity, a methodology based on system thinking, an overlapping of 5 dimensions (environmental, social, economic, cultural and governance) which are not always compatible with each other, a redefinition of spatial and temporal scales and a predominant place for values and principles likely to introduce a change in behavior. (Arnaud (2015)

Morfaw (2014) also identifies the six factors and he called as dimensions of sustainability. These are institutional stability, continued operation and maintenance of project facilities, continuous flow of net benefits, maintenance of environmental stability, equitable sharing and distribution of project benefits and continued community participation

Most of the drivers identified by international organizations and individuals are similar ideas expressed in different way. Community participation, institutional capacity building, ensuring

household livelihood resilience and appropriate eco system management are common drivers identified by all of them.

2.6. Factors affecting project sustainability

2.6.1. Community participation and ownership

In the context of development, community participation refers to an active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits. (Paul,1987). Active community participation in project planning and implementation may improve project design through the use of local knowledge; increase project acceptability; produce a more equitable distribution of benefits; promote local resource mobilization; and help ensure project sustainability. Community Participation also seen as one solution to overcome the problem of sustainability of development projects. (Hadi, 2017)

According to Caleb (sited in Mansuri and Rao 2003), Community participation in development projects has become an important element in the design and implementation of development projects. Participation of the community is in the form of Community Based Development (CBD) and is among the fastest growing mechanism for channeling development assistance. The aim of community participation in CBD projects is not only to reverse the existing power relations in a manner that creates agency and voice for the poor but also to allow the poor to have more control over development assistance. It is expected that this will result in the allocation of development funds in a manner that is more responsive to the needs of the poor, better targeting of poverty programs, more responsive government and better delivery of public goods and services, better maintained community assets, and a more informed and involved citizenry that is capable of undertaking self-initiated development activity.

Though community participation is important factor for project sustainability, the level and degree of participation is more important. Because all participation is not equal. The extent of participation in programs can vary from minimal to complete ownership. The diagram below (figure 2.2) shows increasing degrees of participation from the low end of co-option to the upper end of collective action. This shows that as community participation increases, community ownership and capacity increase and in turn this leads to project sustainability.

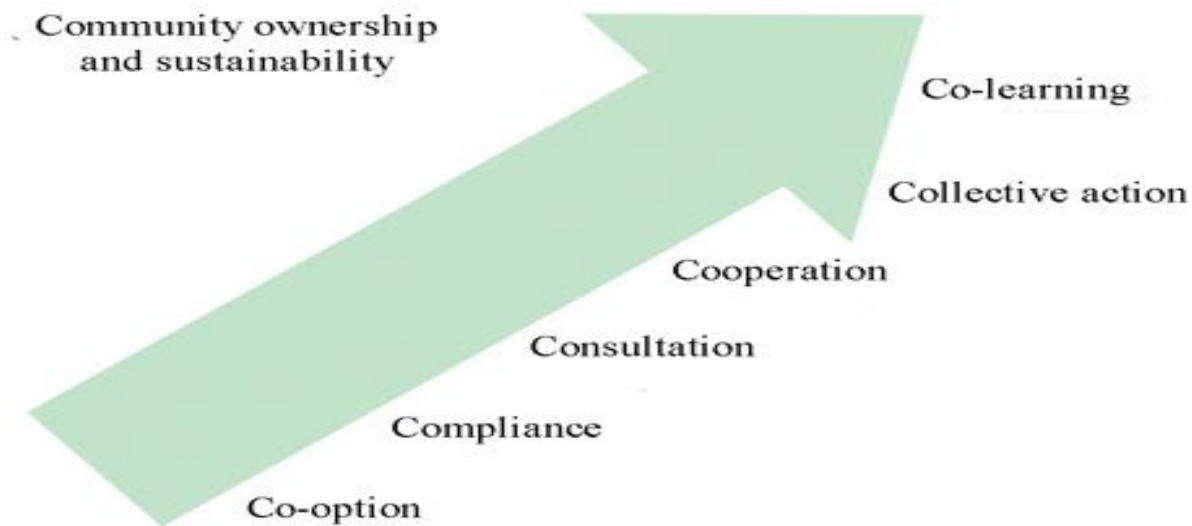


Figure 2.2: level of community participation (source: Health Education, Advocacy and Community Mobilization, Digital Campus Moodle)

As it is presents in the above figure 2.2, co-option is the smallest level of community participation and co-learning is the highest level of community participation. In Co-option, local representatives are chosen, but have no real input or power. Compliance level of participation indicates that, tasks are assigned with incentives, but outsiders decide the agenda and direct the process. in consultation, Local opinions are asked for, and outsiders analyze and decide on a course of action where as in cooperation, local people work together with outsiders to determine realities; responsibility remains with outsiders for directing the process. collective action is a level that local people set their own agenda and mobilize to carry it out, in the absence of outside initiators and facilitators. Co-learning, the highest level of community participation is a process that local people and outsiders share their knowledge to create a new understanding, and work together to form action plans, with outsiders facilitating. (<https://moodle.digital-campus.org>)

2.6.2. Human and institutional capacity building

Capacity building is a crucial and widely defined term. It refers to the process by which people or institutions are taught capacity—the knowledge of how to deploy a capability effectively. (Nadia, Querine and Nicholas 2017). Institutional Capacity Building is considered here as one of the main types of Capacity Building efforts, along with Human Capacity Building. Both are closely inter-related and complement each other. Institutional capacity building addresses capacity building

beyond the provision of education and training of professionals. It aims to enhance the capacity of governments, business, non-governmental groups and communities to plan and manage the coast efficiently and effectively. It also aims to improve institutional arrangements for coastal management. This implies addressing Capacity Building on a long-term, strategic level. Concepts such as leadership, awareness, and constituency building are part and parcel of institution building. (Garriga,2020)

In the process of ensuring sustainable development, human and institutional capacity building considered as a major pillar. In sustainable Development Goal Target 17.9 of the 2030 Agenda for Sustainable Development is the dedicated target to capacity- building and aims to "Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation". Within the 2030 Agenda for Sustainable Development, capacity-building is also mentioned by target 17.8 in the context of ensuring full operationalization of the "technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017". (<https://sustainabledevelopment.un.org>)

2.6.3. Project monitoring and evaluation practice

Monitoring and evaluation is a major tool that used in project management process. according to monitoring and evaluation framework (2012), Monitoring is the routine checking of information on progress, so as to confirm that progress is occurring against the defined direction. It commonly involves monthly to quarterly reporting, on outputs, activities and use of resources (e.g. people, time, money, and materials). It should be used to ensure that what has been planned is going forward as intended and within the resources allocated. Evaluation is used to ensure that the direction chosen is correct, and that the right mix of strategies and resources were used to get there. It can typically be formative (helping to develop learning and understanding within stakeholders) or summative (i.e. indicating the degree of achievement). It typically focuses on outcomes and their relationship with outputs.

Monitoring and Evaluation helps project managers in keeping track the implementation of the projects and its prudence in the utilization of the resources. It provides decision makers with a strategy to plan for sustainability of the projects and guidance for future endeavors. (Biwott,

Egesah, and Ngeywo, 2017). M&E has been gaining increasing significance in determining the performance of projects and, as such, their ultimate sustainability. This is echoed by Waithera and Wanyoike (2015) when they state that the sustainability criteria of economic, social and environmental are crucial in the definition of M&E indicators, tracking economic and social trends, and keeping tabs on progress towards project goals. Essentially, the initiatives undertaken by M&E in enhancing transparency and accountability engender greater confidence by donors in organizations which boosts the possibility of attaining funding sources and ensures better economic sustainability for their projects (Njeri and Omwenga, cited on Waithera and Wanyoike, 2015).

2.7.Review of Empirical Studies

BLEN DAMTEW (2019) researched on Factors Affecting Successful Implementation of Projects in International Nongovernmental Organizations in Ethiopia. The aim of the research was to establish factors affecting successful implementation of projects in international NGO's in Ethiopia. The case of Save the Children International projects in Ethiopia. The study used descriptive survey design. Questionnaires were used to collect data. It had both open ended and close ended questions. Both hard copies and email communication were issued for the target population. The study established that lack of effective planning and clarity on complex internal and external rules affects successful project implementation. The results also indicated that communication and managerial factors affects implementation of projects. Finally She recommends that to effectively implement donor projects NGOs, work plan must be clear to the project employees and procedures should be in place to discuss the requirements of the project before starting to implement, communication should be effective, project managers should have hard and soft skills and clear communication and focus on strong induction in creating common understanding among the staffs on both donor and internal requirement at the beginning of the project is very crucial.

RAHEL FITANE (2018) researched Factors Affecting Sustainability of Small and Medium-Scale Enterprises (SME): The Case of Addis Ababa, Ethiopia. The general purpose of the study was to identify the major internal & external factors that influencing sustainability of small and medium scale enterprises. A survey-based approach was used. Data were collected using questionnaires

from 41 closed SMEs and a sample of 277 existing SMEs has been taken. Her study revealed that the most important internal factors that determine SMEs sustainability is work-related factor and marketing, financial and political-legal factors are major external factors that affecting SMEs sustainability.

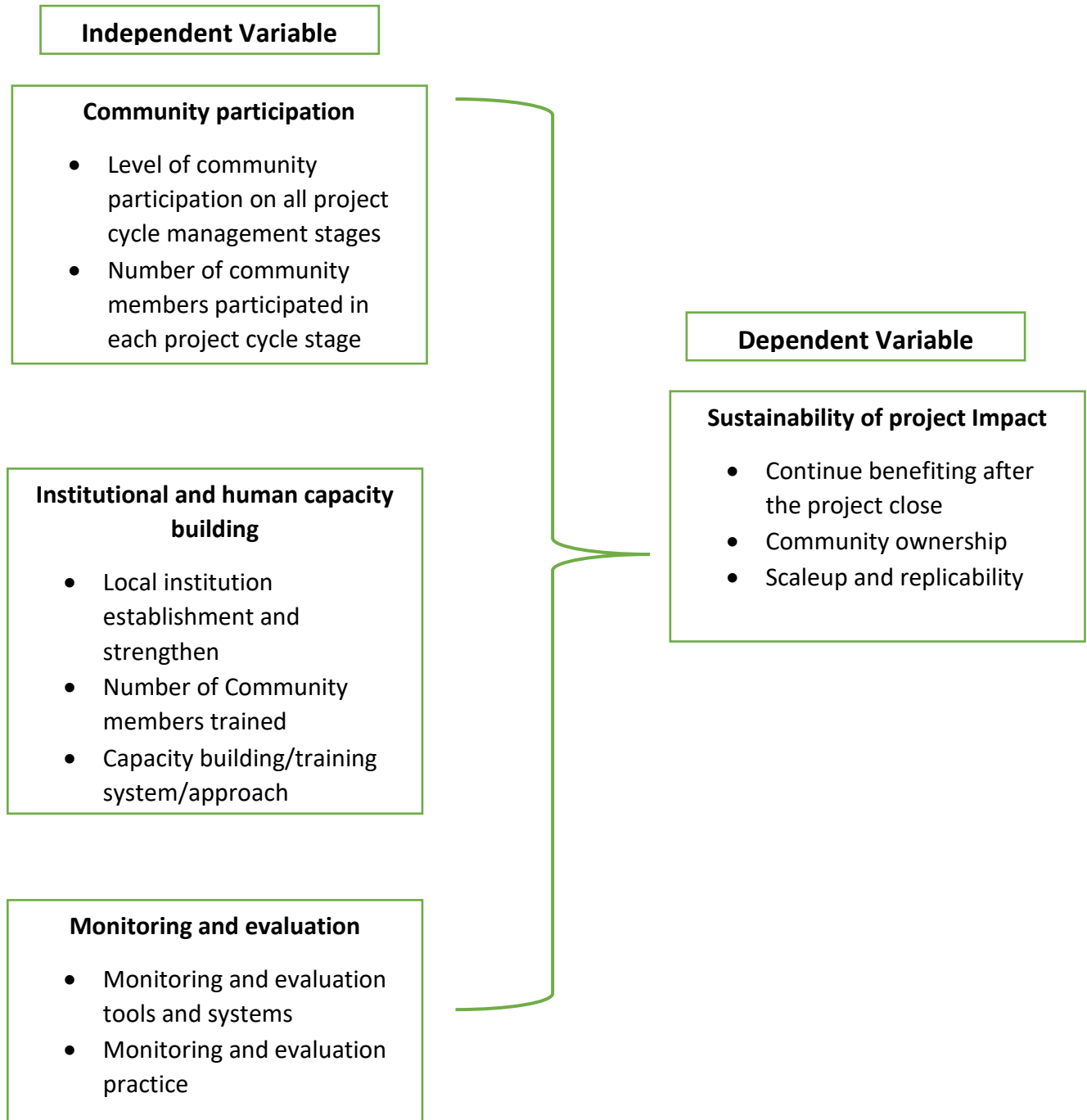
TARIKU BEYENE (2014) conducted a study on factors influencing sustainable funding of nongovernmental not for profit organization a case study of action for development in Addis Ababa. The purpose of the study was to examine the factors that affect financial sustainability of NGOs in Ethiopia with specific reference to Action for Development (AFD) in Addis Ababa. In this study, exploratory research design was adapted. The target population of the study included the management team of AFD in Addis Ababa. Stratified proportionate random sampling technique was used to select 13 respondents. This study made use questionnaires for primary data collection. Quantitative data was analyzed using table and ratios. Data collected through the open-ended questions and analysis of documents was analyzed qualitatively through content analysis. The study found that donor relationship management contribute most to financial sustainability of nongovernmental followed by strategic financial management then income diversification while own income generation contributed the least to financial sustainability of nongovernmental organizations. The study recommends that in order to ensure that the NGOs remain sustainable; they should procure employees that are competent in strategic planning, plan implementation and financial analysis. The NGO management should increase their income sources from their usual ones. The management should ensure that they maintain a good relationship with the donors mainly by information management, ensuring there is accountability and meaningful communications.

TENAW KASSA (2014) conducted a study with the main objective of assess and determine the sustainability of community managed rural potable water supply systems in Seharti-Samre woreda by examining the main factors and identifying the limitation and key challenges. He employed both probability and non-probability sampling method. Cross-sectional design with descriptive analysis was applied using different data collection methods. In his study he found that village level maintenance practices asides to lack of skill and poor fund raising were lack of spare parts and a set of toolkits, weak institutional support after construction, poor construction designs, and lack of soil and water conservation activities as major factors that affects water points

sustainability. In his study results of the sustainability score showed that none of studied water points are likely to be sustainable in the long term, and 62.5% are possibly sustainable, and the rest 37.5% of the water points are unlikely that the community will be able to overcome any significant challenge. Finally, the study recommends committee members need refresher and further training including on topics of financial management and operation and maintenance of water point schemes, provide incentives to encourage more proactive maintenance of facilities by Water management committees and to improve existing water point registration database on the different rural water supply sources.

HABTAMU ADDIS BEYENE (2012) conducted a research on factors affecting the sustainability of rural water supply systems: the case of Mecha woreda, Amhara region, Ethiopia. The goal of his study was to find the reasons for why water supply systems project not sustainable. A survey was carried out with 160 household in 16 water supply systems constructed by different organizations. The results confirm that in the study area (Mecha Woreda) only one of the 21 systems installed without community support was still functioning while only 12 of the 142 systems installed with community failed. One of the reasons of abandonment of dug wells despite full participation initially during planning and construction was the presence of (unprotected) springs in walking distance from water points because people generally preferred the taste of spring water above that of well water. The other important factor he identified was the greater involvement of women in the decision-making process of the functioning wells than initially for the abandoned wells. The institutional support of the water supply systems after construction was very weak mainly due to understaffing of the woreda office.

2.8. Conceptual Framework of the Study



3Figure 2.3: conceptual framework of the study

CHAPTER 3: RESEARCH METHODOLOGIES

3.1. Introduction

In this chapter detail research methodologies used in this study will explain in different sub topics including research design used in this study, target population, study area, sampling method and tool and detail of data collection methodologies.

3.2. Research design

Research design refers to the overall strategy that a researcher chooses to integrate the different components of the study in a coherent and logical way, thereby, ensuring one effectively addresses the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data. The function of a research design is to ensure that the evidence obtained enables one to effectively address the research problem as unambiguously as possible. (De Vaus and William, 2006).

In this research the researcher used descriptive research design in order to determine the selected factors' influence on sustainability projects implemented by NGOs in the case of Farm Africa Ethiopia. Descriptive research is designated to provide a picture of a situation as it naturally happens, justify current practice and make judgment and also develop theories. (Burns and Grove, 2001). Similarly, in this study the researcher tries to give a picture of influence of community participation, project management capacity and system, local community and institutions capacity building and monitoring and evaluation on sustainability of Projects implanted by Farm Africa Ethiopia in six woredas of SNNPR and Amhara national regional state.

In order to comprehend the opinions on a project beneficiary community on the sustainability of Farm Africa implemented projects, survey method was used. Survey method was used because of its appropriateness to answer research questions.

By its nature this study is cross sectional type of study. Because data collected from sample respondents in one specific time. Solely qualitative data were collected and findings of this study describes qualitatively. Collecting data through qualitative methods like focus group discussion

and key informant interview was not appropriate due to COVID 19 and time and resource limitation.

3.3. Description of study variables

Dependent variable –is the variable that depends on other factors that are measured. These variables are expected to change as a result of an experimental manipulation of the independent variable or variables. It is the presumed effect (Penslar,2010). Dependent variable of this study is sustainability of projects implemented by farm Africa Ethiopia. It was measured by continuing the community after the project close, level of community ownership and replicability project impact to other areas.

Independent variable – is the variable that is stable and unaffected by the other variables you are trying to measure. It refers to the condition of an experiment that is systematically manipulated by the investigator. It is the presumed cause (Penslar, 2010).

The study has three independent variables. These are

1. Community participation in all project cycle management stages – this includes Level of community participation on all project cycle management stages and Number of community members participated in each project cycle stage.
2. Institutional and human capacity building – this includes Local institution establishment and strengthen, Number of Community members trained and Capacity building/training system/approach
3. Monitoring and evaluation – this includes Monitoring and evaluation tools, systems and practice

3.4.Description of study area and target population

3.4.1. Study area

The study areas of this study are six woredas located in Southern Nations Nationalities and Peoples Regional State's (SNNPRS) and Amhara national regional states of Ethiopia. The study areas in SNNPRS are Halaba woreda in Halaba zone, Hadaro Tuntu woreda in Kembata Tembaro zone and Damot Gale woredas in Wolayta zones. In Amhara region Ambassel and Tehuledere Woredas

in South Wollo Zone and Dewachefa Woreda in Oromo nationality Zone are the study areas. Short description of each study area is discussed below.

Halaba is one of the woredas in the Southern Nations, Nationalities, and Peoples' Region of Ethiopia. It is named after the Halaba people, and covers part of their homeland. Located in the Great Rift Valley, Halaba is bordering on the south side by an exclave of Hadiya Zone, on the southwest by Kembata Tembaro Zone, on the west and north by Hadiya Zone, on the northeast by Lake Shala, and in the east by Oromia Region. Bilate River, which is the major body of water in the woreda defines its western boundary.

Damot Gale is one of the woredas (districts) is located in Wolayita Zone. The woreda is bordering on the southwest by Sodo Zuria, on the northwest by Boloso Sore and Damot Pulasa, on the north by the Hadiya Zone, on the east by Diguna Fango, and on the southeast by Damot Weyde. The administrative center of Damot Gale is Boditi.

Hadero Tunto is located in the Kembata Tembaro Zone. Hadero Tunto is bordering on the south by the Wolayita Zone, on the west by Tembaro, on the north by the Hadiya Zone, and on the east by Kacha Bira. Towns in Hadero Tunto include Hadero and Tunto.

Ambassel is one of the woredas of the Amhara Region in Ethiopia, and an amba, or mountain fortress, located in the woreda; the woreda is named for this feature. Located in the Debub Wollo Zone, Ambassel woreda is bordered on the west by the Bashilo which separates it from Tenta, on the north by the Semien Wollo Zone, on the southeast by the Mille River which separates it from Tehuledere, and on the south by Kutaber; the Walano, a tributary of the Bashilo, defines most of its southern border. Its largest town is Wuchale.

Dawa Chefe is one of the woredas in the Amhara Region of Ethiopia. Part of the Oromia Zone, Dawa Chefe is bordered on the south by Artuma Fursi, on the southwest by the Semien Shewa Zone, on the northwest by the Debub Wollo Zone, on the northeast by the Argobba special woreda, and on the east by Dawa Harewa. Towns in Dawa Chefe include Welede. The town of Kemise is surrounded by Dawa Chefe.

Tehuledere is one of the woredas in the Amhara Region of Ethiopia. Located at the eastern edge of the Ethiopian highlands in the Debub Wollo Zone, Tehuledere is bordered on the south by

Dessie Zuria, on the southwest by Kutaber, on the northwest and the north by the Mille River, on the northeast by Were Babu, and on the southeast by Kalu; the Mille separates Tehuledere from Ambasel to the northwest and the Semien Wollo Zone to the north. Towns in Tehuledere include Baso Mille, Boru Selassie, Hayq and Sulula.

3.4.2. Target Population

The target population for a survey is the entire set of units for which the survey data were used to make inferences. Thus, the target population defines those units for which the findings of the survey are meant to generalize. The projects selected as a case for this study was implemented in 15 kebeles of SNNPRS and in 8 kebeles in Amhara national regional state. Therefore, study population for this study is 4317 project beneficiaries live in these kebeles.

3.5. Sampling methods and sample size

3.5.1. Sampling method

A sample is a group on which information is gathered and the finding after analysis can be used to make generalization about a population and Sampling is the process of selecting a number of individuals from a population of concern in a way that allows the selected group to effectively represent the characteristics of the entire group (Kombo and Tromp (2006)). To select representative sample, probable sampling technique used. Probability sampling means that every item in the population has an equal chance of being included in sample (Hamed,2016).

There are different types probability sampling including simple random sampling, cluster sampling, systematic random sampling and multi stage sampling. Cluster sampling method was applied in this research. Cluster sampling is where the whole population is divided into clusters or groups. Subsequently, a random sample is taken from these clusters, all of which are used in the final sample. (Hamed,2016). The major reason for choosing cluster sampling is the size and location of study area. Because cluster sampling is advantageous for those researchers whose subjects are fragmented over large geographical areas as it saves time and money (Hamed, 2016). According to this, study area clustered by woreda and one Kebele from each woreda was selected.

3.5.2. Sample size

To determine the sample size of this study, the formula provided by Cochran (1963) is used with confidence level of 90% and 0.1 precision (10%) of confidence interval. Due to time and financial resource limitation and homogeneity of project intervention in sampled kebeles, sample population for this study determined by 90% confidence level and 10% confidence interval.

$$n = N / [1 + N(e)^2];$$

Whereby n is the sample size, N is the population size, and e is the level of precision.

$$n = 4317 / [1 + (4317 * 0.1^2)] = 98$$

as a contingency 10 % of sample HH added. Therefore, total sample size for beneficiary community was 114.

3.6.Data collection

3.6.1. Data type and source

In this study primary data used. Primary data collected from 114 project beneficiaries. During collection data from primary, the respondents were assured that strict confidentiality had been maintained in dealing with their responses as provide by code of ethics in research procedures.

3.6.2. Data collection instrument

Structured questioner was used. The questioner organized by five parts. Part one deals with basic information about the respondents, part two has serious of questions to assess whether project benefit continues after project close or not, part three is about community participation, part four has questions that address local community capacity building and part five is about project monitoring and evaluation. To get response from beneficiary community, answers for most questions organized by Likert scale response system.

3.6.3. Data collection procedure

Sample respondents are live in the rural area and literacy level may be a challenge to use self-administered questioner. Therefore, one to one interview was scheduled. The data was collected by using digital (mobile app based) data collection platform called Solstice world. The platform works both on line and off line and due to this internet limitation was not a problem during data

collection time. The collected data by solstice world platform exported in excel format for detail analysis.

3.6.4. Data analysis

Descriptive statistics method used to quantitative data and this expressed in form of percentages, means, standard deviations and frequencies. The information displayed by use of tables, bar charts, graphs and pie charts. This was done by computing percentages of variations in responses as well as describing and interpreting the data in line with the study objectives and assumptions. To understand the relationships between the independent variables and the dependent variable, a multiple regression analysis was used. The Multiple regression analysis model was selected because the study investigating more than one independent variables. The Multiple Regression equation for the study is expressed as follows

$$S = \beta_0 + \beta_1 CP + \beta_2 PM + \beta_3 CB + \beta_4 ME + \mu$$

Whereby:

S is Sustainability

$\beta_0, 1, 2, 3, 4$ are coefficient of variables

CP is community participation

PM- is project management capacity

CB- Community capacity building

ME is Monitoring and evaluation

μ is error term

3.7. Validity of the research instruments

Validity of a research instrument assesses the extent to which the instrument measures what it is designed to measure. It is the degree to which the results are truthful. So that it requires research instrument (questionnaire) to correctly measure the concepts under the study (Mohajan, 2017). To achieve desired degree of validity, the research instruments were designed in a way to answer the general and specific objectives set for the study. To ensure content validity, the tools were reviewed by scholars mainly by my research advisor and tools were revised based on the review feedback.

To validate internal consistency of questioners for each variable Cronbach's alpha measure was conducted. A general accepted rule is that α of 0.6-0.7 indicates an acceptable level of reliability, and 0.8 or greater a very good level. (Hulin, Netemeyer, and Cudeck, 2001). Based on the analysis, Cronbach's alpha value of the first independent variable (community participation) is 0.7 and it is acceptable, Cronbach's alpha value of capacity building is 0.8 and the value ranges from 0.8-0.9 indicates that internal consistency of the questioners is very good. The Cronbach's alpha value of questioners under monitoring an evaluation and project sustainability are 0.93 and 0.9 respectively and this indicates that measurements under these variables have excellent internal consistency.

3.8.Ethical consideration

Data were collected from sampled beneficiary community members after they give their full consent to response for the questions. Additionally, the researcher ensured all respondents addressed without compromising their personal pride and dignity. Data of the respondents use only for adamic purpose and it was also treated with utmost confidentiality.

CHAPTER 4: FINDINGS AND DISCUSSIONS

4.1.Introduction

As it was described in chapter one of this study, there are four research questions and this chapter will provide sufficient answer for each research questions. The Survey data collected from 114 project beneficiaries analyzed and discussed to answer the research question identified in chapter two. The chapter stated by providing general information about survey sample respondents and continue presenting findings and discussion of research questions. To answer research questions, ordinal data (by using Likert scale) were collected and due to this the findings will be discussed on frequencies rather than mean and standard deviation.

4.2.Background information of respondents

Data were collected from 114 respondents from six different project intervention woredas of Farm Africa Ethiopia found in Amhara national regional state and SNNPR. 11 (9.7%) female and 103(90.3% of male project beneficiaries were participated. Summary of respondent's demographic information presented in the below table 4.1.

Table 4.1: Summary of respondent's demographic information

Respondents Characteristics	Response Category	Frequency	%
Age category	18 - 29 Years old	5	4.4%
	30 - 40 years old	43	37.7%
	41-50 Years old	43	37.7%
	51 - 60 Years old	19	16.7%
	above 60 years old	4	3.5%
Marital status	Divorced	4	3.5%
	Married	109	95.6%
	Widowed	1	0.9%
Educational status	12th complete & above	5	4.4
	Secondary education (Grade 9-12)	11	9.65
	Primary education (Grade 1-8)	91	79.8
	No education at all - is illiterate	7	6.14

As it is presented in the above table 4.1, 75.4% of respondents age ranges from 30 – 50 years old, 95.6% of respondents are married and 79.8% of respondent's educational statues fails under primary education. These three-basic demographic characteristics shows that most of project beneficiaries have common demographic characteristics.

On the other hand, average family size and average frame land size varies from area to area. Ae it is shown in the below table 4.2, average family size in ranges from 5 up to 8 and average farm land size per household is 0.35 hectare in tehuledere woreda and 2.03 hectare in Halaba woreda.

Table:4.2: respondents average family size and average land holding

Region	Woredas	Average family size	Average Farm land size per household in hectare
Amhara	Ambasel	5	0.44
	Dewachefa	7	1.34
	Tehuledere	5	0.35
SNNPR	Damot galle	8	0.72
	Hadero	6	0.87
	Halaba	5	2.03
Total Average		6	0.96

The other basic information collected from respondents was their major livelihood option or major source of income. As it is presented in the below pie chart (figure 4.1), crop production and mixed agriculture (crop production and livestock production) are the major source of income for 95% respondents.

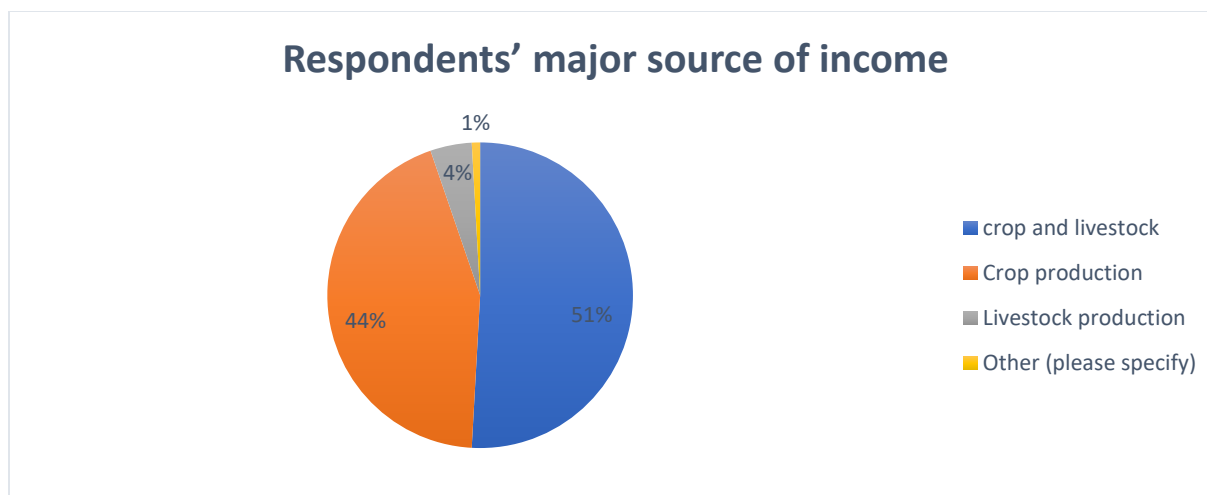


Figure 4.1.: Respondents' major source of income

4.3. Projects major intervention and benefits

According to the project design document, delivering regular market and weather information via mobile SMS, radio or mobile application, provide regular training on market and weather information interpretation and use, deliver periodic training on climate smart agricultural practices for target beneficiaries was the major intervention focuses of accelerating the uptake of climate smart agriculture for improved agricultural productivity of smallholder farmers project (that was implemented Hadero Tunto, Damot galle and halaba districts in SNNPR, Ethiopia).

On the other hand, providing improved agricultural seeds, facilitate access for improved agricultural inputs and tools and establish market linkage for major agricultural products were the major intervention focuses of enhancing market systems for improved sustainable livelihoods project (that was implemented in Ambasel, Tehuledere and Dewachefa districts in Amhara national regional state, Ethiopia).

To know whether these project delivered its intended objective or not, beneficiary community respondents of uptake of climate smart agriculture for improved agricultural productivity of smallholder farmers project were asked and 14% of respondents strongly agree that they received regular market and weather information via mobile SMS, radio or mobile application, regular training on market and weather information use and training on climate smart agricultural practice. 66.7% agree, 14% neutral and 5.3% respondents disagree on the about getting the above listed trainings and services.

Similarly, beneficiary community respondents of enhancing market systems for improved sustainable livelihoods project asked whether they were benefited from project interventions. Their level of agreement for project interventions were varies. As it is presented in the below table 4.3, 57.9% of beneficiaries disagree about getting benefit from market linkages created by the project and 68.2% of respondents live in the project intervention area (Ambasel, Dewachefa and tehuledere) agrees that they get access to improved agricultural inputs because of farm Africa intervention.

Table 4.3: Respondents level of agreement on projects benefit

Major interventions (statements of project intervention)	Respondents level of agreement				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I benefited from market linkage created by the project	0%	42.1%	0%	57.9%	0%
I get access for improved agricultural inputs and tools in my locality	7%	68.4%	0%	24.6%	0%
I received improved agricultural seed support from the project	0%	49.1%	1.8%	49.1%	0%

4.4.Sustainability of studied projects

In this study project sustainability defend as a continuation of project benefit after the end of project intervention or after project close. To assess sustainability of studied projects, beneficiary community respondents were asked whether they currently (at the time of data collection, January 2021) get benefits form these projects like what they get before a project close. Therefore, according to this understanding sustainability of these two projects discussed below separately.

4.4.1. Sustainability of uptake of climate smart agriculture for improved agricultural productivity of smallholder farmers project

According to the project design document, this project was designed to establish sustainable market and weather information access for small holder farmers and to enhance farmers capacity on market and weather information interpretation and use. According to the survey result, only

14% of project beneficiary communities currently get market and weather information via SMS and mobile applications and the remaining 86% of project beneficiaries reported that they didn't get market and weather information via SMS and mobile applications after project close.

Table 4.4: Respondents level of agreement on continuation of projects benefit after project close(1)

Expected benefits that continue after project close	Respondents level of agreement				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Currently project beneficiaries have been getting regular market and weather information via mobile SMS, radio or mobile application	0%	14%	0%	82.5%	3.5%
Currently project beneficiaries used knowledge they get from the training given by the project on market and weather information use and interpretation	0%	45.6%	3%	52.4%	0%

As it is presented in the above table 4.4, 86% of beneficiary communities don't get market and weather information via SMS and mobile app after the project close. Additionally, less than 50% project beneficiaries have been using knowledge they got from trainings on the weather and market information use and interpretation. More than half of project beneficiaries didn't continue using the knowledge they get from project capacity building interventions. This indicates that the project benefit is not continuing (not sustainable) after project close.

4.4.2. Sustainability of enhancing market systems for improved sustainable livelihoods project

The project was designed to establish sustainable access for agricultural input and output marketing in the project intervention areas. As it is presented in the below table 4.5, 82.5% beneficiary communities agree that they have currently (January 2021) accessing improved agricultural inputs and tools in their locality. In contrary, 56% of beneficiary community disagrees on continuation of market linkage created by the project.

Table 4.5: Respondents level of agreement on continuation of projects benefit after project close (2)

Expected benefits that continue after project close	Respondents level of agreement				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Currently project beneficiaries have access for improved agricultural inputs and tools in their locality	0%	82.5%	0%	17.5%	0%
Currently beneficiary community getting benefits from market linkage created by the project	0%	43.9%	0%	56.6%	3.5%

From the above table 4.5, this project is sustainable (continuing benefiting the community after project close) on the area of creating access for agricultural input in the local market. Agricultural inputs including improved seed, agro chemicals, small farming tools and organic fertilizers. On the other hand, project intervention in relation to creating market linkage to agricultural products is not continuing after project close.

4.5.Factors affecting project sustainability

There are different factors that affects project sustainability. For this study three major factors were identified. These are community participation in different stages of project cycle management, local community and local institutions capacity building and project monitoring and evaluation practice. These factors were identified based on review of different literatures as discussed in the chapter two, literature review part. The effect of each factor in project sustainability discussed in the below parts in detail.

4.5.1. The effect of community participation on project sustainability

Int this sub topic, level of community participation at different stages of project cycle management (planning, implementation and monitoring and evaluation) stages will discussed and extent of community participation at each stage will discussed in detail.

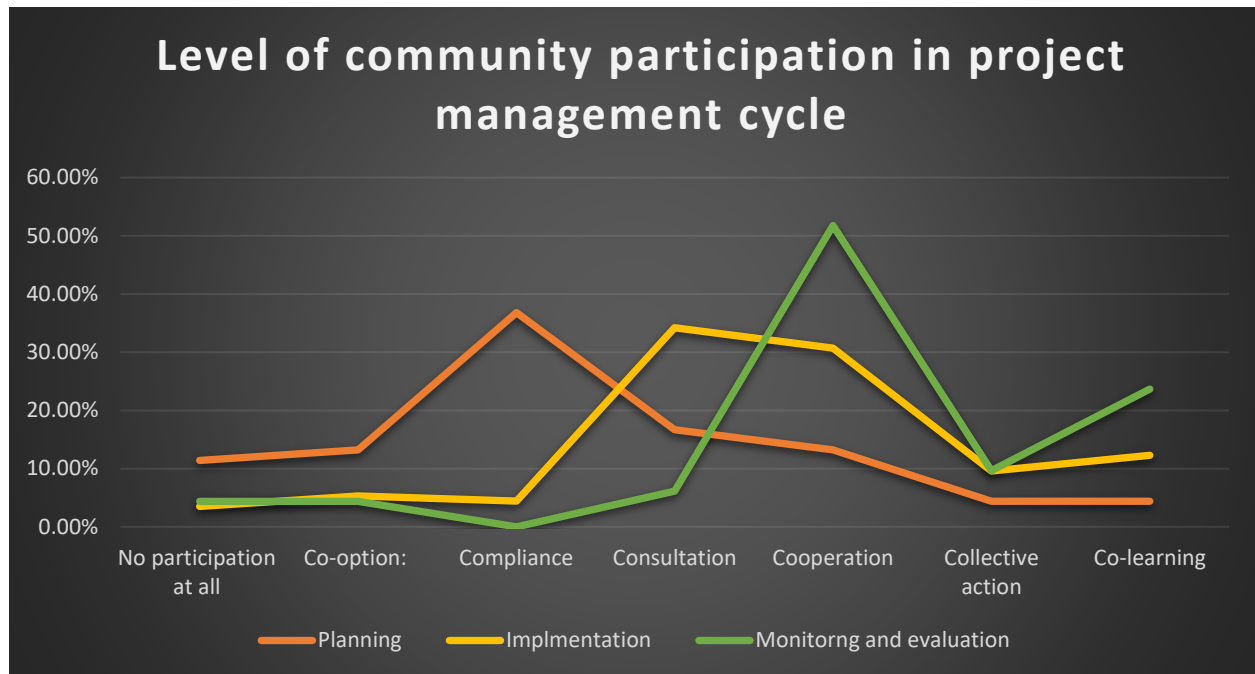
4.5.1.1. Level of community participation in different stages of project cycle

In the context of development project, community participation refers to an active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits. All community participation is not equal. The extent of participation in programs can vary from minimal to complete ownership. In this study level of community participation categorized from no participation up to the co-learning, the highest level of community participation. Summary of community participation in each project cycle is presented in the below table 4.6.

Table 4.6: Summary of community participation in each project cycle

Level of community participation	Project planning stage		Project implementation stage		Project Monitoring and evaluation	
	N	%	N	%	N	%
No participation at all	13	11.4%	4	3.5%	5	4.4%
Co-option:	15	13.2%	6	5.3%	5	4.4%
Compliance	42	36.8%	5	4.4%	0	0%
Consultation	19	16.7%	39	34.2%	7	6.1%
Cooperation	15	13.2%	35	30.7%	59	51.8%
Collective action	5	4.4%	11	9.6%	11	9.6%
Co-learning	5	4.4%	14	12.3%	27	23.7%
Total	114	100%	114	100%	114	100%

As it is displayed in the below chart (figure 4.2), level of community participation relatively low in project planning and shows improvement in project implementation and project monitoring and evaluation.



5Figure 4.2: Level of community participation in project management cycle

4.5.1.2.Extent local community participation effects on project sustainability

To assess the effect of community participation on project sustainability, linear regression analyses was conducted. Before conducting linear regression analysis, normality test was conducted by measuring Skewness. Skewness value of community participation is -0.65 and this indicates that the data was moderately skewed. As it is presented in the below regression table (table 4.7), the multiple correlation coefficient is 0.41758. This indicates that the correlation among community participation and project sustainability is positive.

Table 4.7: community participation and project sustainability- linear regression table

Regression Statistics						
Multiple R	0.41758					
R Square	0.17437					
Adjusted R Square	0.16700					
Standard Error	0.58983					
Observations	114					
ANOVA						
	df	SS	MS	F	Significance F	
Regression	1	8.22983	8.2298	23.655	0.000003	
Residual	112	38.9653	0.3479			
Total	113	47.195175				
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	2.30681	0.21380	10.789	0.0000	1.883179	2.7304
Participation	0.280465	0.0576651	4.863685	0.000038	0.166208	0.39

As it is shown in the result, The coefficient of determination, R^2 , is 0.17437 (17.4%). This means that 17% of the variation in the project sustainability is explained by level of community participation at different stages of project life cycle. F value, 23.655 indicates that the independent variable (community participation) is useful in explaining Dependent variable(project sustainability) with 99.9% (1- 0.000003 (significant F)) confidence. P-value, 0.000038 is less than the confidence level 0.1 (10%) and this implies that community participation has strong statistical significance to determine project sustainability.

4.5.2. Local community capacity building and its effect on project sustainability

In this study capacity building is defined as a planned development of or increase in knowledge, output rate, management, skills, and other capabilities of a community through acquisition, incentives, technology, and/or training. Accordingly, studied projects local community capacity building intervention and its effect on the sustainability was assessed. Based on the finding, 93%

of project beneficiaries confirms that they participate in capacity building training organized by the project and 82.5% of them participated more than two trainings organized by the project. Detail number of trainings that beneficiary community participated presented in the below chart (figure 4.3).

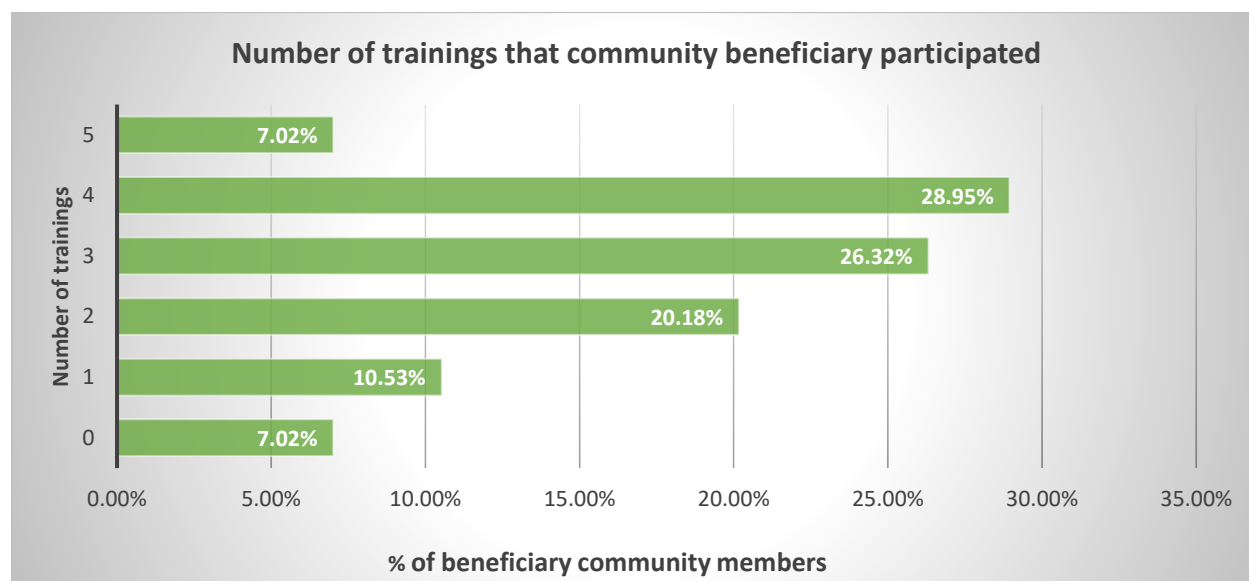


Figure 4.3: number of trainings that beneficiary community participated

Frequency of trainings that organized by the project may not be direct link with project sustainability. Rather relevance of the training topic, knowledge and skill participants get from the trainings and implementation of knowledge and skill in their day to day practice are the major questions that should answer to determine the effect of community capacity building on project sustainability. Therefore these issues separately discussed in the following parts.

4.5.2.1.Does training topics were relevant to local community?

For 78.9% of survey participants training topics were relevant (26.3%) and very relevant(52.6%), for 20.1% of community members training topics were very irrelevant(7%) and irrelevant (13.1%). This indicates that the training topics were appropriately designed and useful for majority of target community members.

4.5.2.2. Did community members acquire new knowledge and skill in the trainings organized by the project?

16.7% of survey participants strongly agrees and 74.6% agrees that trainings organized by Farm Africa Ethiopia projects enable them to get new knowledge and skill. 8.7% of survey participants strongly disagrees (6.1%) and disagrees (2.6%) about getting new knowledge and skill on farm Africa organized trainings. This indicates that majority of (91.3%) of community members get new knowledge and skill from different trainings organized by farm Africa Ethiopia projects.

4.5.2.3. How frequently community members use the knowledge and skill in their day to day farming practice?

6.1% of survey participant community members never used the skill land knowledge they get from trainings organized by farm Africa Ethiopia projects. 7.9% community members use the knowledge and skill rarely, 13.2% uses the knowledge and skill occasionally. 33.3% and 39.5% of community members have been using the knowledge and skill they get from farm Africa Ethiopia organized trainings often and always respectively. This indicates that nearly 94% of community members use the knowledge and skill they get from farm Africa Ethiopia organized trainings in their day to day farming practice with different frequency ranging from rarely to always.

4.5.2.4. Extent local community capacity building effects on project sustainability

To assess the effect of community capacity building on project sustainability, linear regression analyses was conducted . Before conducting linear regression analysis, normality test was conducted by measuring Skewness. Skewness value of community participation is -1.78 and this indicates that the data was highly skewed. According to the analysis result, Local community capacity building and project sustainability has positive relationship. As it is presented in the below regression table (table 10), the multiple correlation coefficient is 0.36883. This indicates that the correlation among community participation and project sustainability is positive.

Table 4.8: local community capacity and project sustainability – linear regression table

Regression Statistics	
Multiple R	0.36883
R Square	0.136036
Adjusted R Square	0.128322
Standard Error	0.603375
Observations	114

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	6.420237	6.4202	17.6350	0.00005392
Residual	112	40.77493	0.3640		
Total	113	47.19517			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	2.307598	0.24562	9.3948	0.000000	1.82092513	2.7942
capacity building	0.270742	0.064471	4.1994	0.000054	0.14300024	0.3984

As it is shown in the result, The coefficient of determination, R^2 , is 0.136036 (13.6%). This means that close to 14% of the variation in the project sustainability is explained by community capacity building interventions. F value, 17.6350 indicates that the independent variable (community capacity building) is useful in explaining Dependent variable(project sustainability) with 99.99% (1- 0.000053 (significant F)) confidence. P-value, 0.000076 is less than the confidence level 0.1 (10%) and this implies that community capacity building has strong statistical significance to determine project sustainability.

4.5.3. Project monitoring and evaluation practice influence on Project sustainability

Monitoring and evaluation Practices refer to the patterns or a trend that have been identified to be efficacious in improving project performance. In this study, monitoring and evaluation practice

expressed by practices related with community feedback, using feedbacks for adoptive management or improvement and sharing project progress results to beneficiary community. detail of these issues discussed in the below subtopics.

4.5.3.1. Monitoring and evaluation practice

As it is mentioned in the above in this study, Collecting community feedback and recommendations, use feedbacks from community members for improvement and sharing project progress results to beneficiary community were used to assess monitoring and evaluation practice. Summary of responses on monitoring and evaluation practice presented in the below table 4.9.

Table 4.9 Respondents level of agreement on Monitoring and evaluation practice

Monitoring and evaluation practice	Respondents level of agreement									
	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	N	%	N	%	N	%	N	%	N	%
Community feedback and recommendations collected	9	7.9	96	84.2	2	1.8	4	3.5	3	2.6
Using community feedback and comment in the project implementation	9	7.9	95	83.3	3	2.6	5	4.4	2	1.8
Share project progress result to community	5	4.4	92	80.7	6	5.3	10	8.8	1	0.9

As it is presented in the above table 4.9, 92.1%, 91.1% and on 85.1 % of respondents agrees and strongly agrees that farm Africa collects community feedback and recommendations, use the feedback and recommendations for project implementation improvement and shares project progress and results to community members respectively. This indicates that farm Africa Ethiopia has well established and participatory monitoring and evaluation practice.

4.5.3.2.Extent monitoring and evaluation effects on project sustainability

To assess the effect of monitoring and evaluation practice on project sustainability, linear regression analyses was conducted . Before conducting linear regression analysis, normality test was conducted by measuring Skewness. Skewness value of Monitoring and evaluation practice is -2.58 and this indicates that the data was highly skewed. As it is presented in the below regression table (table 4.10), the multiple correlation coefficient is 0.454304. This indicates that the correlation among Monitoring and evaluation practice and project sustainability is positive.

Table 4.10: monitoring and evaluation practice and project sustainability – linear regression table

<i>Regression Statistics</i>						
Multiple R	0.454204					
R Square	0.206301					
Adjusted R Square	0.199214					
Standard Error	0.578319					
Observations	114					

<i>ANOVA</i>						
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>	
Regression	1	9.73640	9.736	29.11141	0.00004	
Residual	112	37.4587	0.334			
Total	113	47.1951				

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	1.478733	0.3439	4.299	0.00003676	0.79722	2.1602
M&E	0.473394	0.0877	5.395	0.00000039	0.29955	0.6472

As it is shown in the above table 4.10, The coefficient of determination, R^2 , is 0.206301 (20.6%). This means close to 21% of the variation in the project sustainability is explained by Monitoring and evaluation practice of the project. F value, 29.11141 indicates that the independent variable (Monitoring and evaluation practice) is useful in explaining Dependent variable(project

sustainability) with 99.99% (1- 0.00004 (significant F)) confidence. P-value, 0.000039 is less than the confidence level 0.1 (10%) and this implies that monitoring and evaluation practice has strong statistical significance to determine project sustainability.

4.6.Independent variables extent of influence of Project sustainability

In the above parts, extent of each independent variable effect on project sustainability discussed based on leaner regression analysis. But project sustainability is a broad issue and may not be determined by only in one independent variable. Therefore in this part the effect of all independent variables (community participation, community capacity building and monitoring and evaluation practice) analyzed by multiple regression method and the combined effect presented below.

Table4:11: multiple regression table of dependent and independent variables

Regression Statistics	
Multiple R	0.504162
R Square	0.25418
Adjusted R Square	0.233839
Standard Error	0.565678
Observations	114

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	11.996052	3.998684	12.496198	0.0000004
Residual	110	35.199124	0.319992		
Total	113	47.195175			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 90.0%</i>	<i>Upper 90.0%</i>
Intercept	1.313229	0.3421971	3.837639	0.00020776	0.635074766	1.991384	0.745584	1.880874
Participation	0.126856	0.0603421	2.102283	0.037810444	0.007272275	0.24644	0.026759	0.226953
capacity building	0.09631	0.0743852	1.294752	0.198116919	-0.0511036	0.243724	-0.02708	0.219702
M&E	0.312573	0.1087978	2.872975	0.004880748	0.09696165	0.528185	0.132097	0.49305

The coefficient of determination, R^2 , is 0.254162 (25.4%). This means close to 26% of the variation in the project sustainability is explained by level of community participation, community capacity building and Monitoring and evaluation practice of the project.

Based on the above regression table, the equation project sustainability

$$S = \beta_0 + \beta_1 CP + \beta_2 CB + \beta_3 ME + \mu$$

Whereby:

S is Sustainability

$\beta_{0,1,2,3,4}$ are coefficient of variables

CP is community participation

CB- Community capacity building

ME is Monitoring and evaluation

μ is error term

becomes:

$$\text{Project sustainability} = 1.313229 + 0.126856CP + 0.09631CB + 0.312573 ME + \mu$$

According to the regression equation established, taking all independent variables to be at zero, (community participation, community capacity building, and monitoring and evaluation practice) sustainability will be at a constant which equals 1.313229. The data findings analyzed also show that a unit change in community participation results in 0.126856 unit increase in project sustainability, a unit change in community capacity building results to 0.09631 increase in project sustainability and a unit change in Project monitoring and evaluation practice contributes to 0.312573 unit increase in project sustainability. This indicates that establishing appropriate monitoring and evaluation practice contributes more to project sustainability and relatively local community capacity building contributes less for project sustainability.

CHAPTER 5: SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This last chapter organized by three main sections. The chapter start with providing summary of the major findings of the study followed by conclusion derived from the findings and finally list of recommendations based on the conclusions will be presented.

5.2. Summary of study findings

This study was conducted with four specific objectives and summery of study findings discussed according to these objectives.

5.2.1. Sustainability of NGO implemented projects

Two different projects implemented by farm Africa Ethiopia in Amhara regional state and in SNNPR were studied to assess the extent of NGO implemented projects sustainability (continue benefiting the community after their completion). According to the survey finding

- ❖ 86% of beneficiary communities of uptake of climate smart agriculture for improved agricultural productivity of smallholder farmers project don't get market and weather information via SMS and mobile app after the project close.
- ❖ Less than 50% project beneficiaries the above project have been using knowledge they got from trainings on the weather and market information use and interpretation. More than half of project beneficiaries didn't continue using the knowledge they get from project capacity building interventions.
- ❖ In general uptake of climate smart agriculture for improved agricultural productivity of smallholder farmers project was no sustainable(continuing benefiting the community after project close.
- ❖ 82.5% beneficiary communities of enhancing market systems for improved sustainable livelihoods project continue benefiting from improved agricultural input access in their locality after project close.

- ❖ 56% of beneficiary community of enhancing market systems for improved sustainable livelihoods project disagrees on continuation benefits of market linkage created by the project after project close.
- ❖ In general majority of enhancing market systems for improved sustainable livelihoods project beneficiaries getting project benefit after project close. And this leads to conclude that the project is sustainable.

5.2.2. Extent local community participation effect on sustainability of NGO implemented projects.

community participation refers to an active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits. In this study level of community participation categorized from no participation up to the co-learning, the highest level of community participation. Based on the findings, level of community participation at project planning, implementation and monitoring and evaluation is summarized below:

- ❖ at project planning stage, participation level of majority (36.8%) of project beneficiaries was compliance (planning task were assigned with incentives, but Farm Africa decide the agenda and direct the process) and 16.7% of beneficiaries consulted (opinions of local community asked and farm Africa analyze and decide on a course of action). 11.4 % of beneficiary communities didn't participate in the planning process. participation level of the remaining 13. %, 13.2%, 4.4% and 4% of beneficiary communities were cooption, cooperation, collective action and co learning respectively.
- ❖ at project implementation stage, 34.2% of beneficiary communities were consulted, 30.7% of beneficiaries work in cooperation with farm Africa. Only 3.5 % of beneficiaries didn't participate in the implementation process. participation level of 5.3%, 4.4%, 9.6% and 12.3% was cooption, compliance, collective action and co-learning respectively.
- ❖ In the process of project monitoring and evaluation process, participation level of more than half (51.8%) of beneficiary community members was cooperation. 23.7% level of participation was co-learning, the highest level of community participation. The remaining 4.4 % and 9.6% of beneficiary communities level of participation was cooption and

collective action respectively. Only 4.4% of beneficiaries not participate in the monitoring and evaluation process.

- ❖ Based on Linear regression analysis finding, The coefficient of determination, R^2 , is 0.1743(17.43%). This means that 17% of the variation in the project sustainability is explained by level of community participation at different stages of project life cycle.

5.2.3. Extent local community capacity building influence on sustainability of NGO implemented projects

capacity building is a planned development of or increase in knowledge, output rate, management, skills, and other capabilities of a community through acquisition, incentives, technology, and/or training. The followings are summary of findings related with community capacity building intervention.

- ❖ 93% of project beneficiaries confirms that they participate in capacity building training organized by the project and 82.5% of them participated more than two trainings organized by the project.
- ❖ For 78.9% of survey participants capacity building training topics were relevant (26.3%) and very relevant(52.6%), for 20.1% of community members training topics were very irrelevant(7%) and irrelevant (13.1%).
- ❖ 16.7% of survey participants strongly agrees and 74.6% agrees that trainings organized by Farm Africa Ethiopia projects enable them to get new knowledge and skill.
- ❖ 94% of community members use the knowledge and skill they get from farm Africa Ethiopia organized trainings in their day to day farming practice with different frequency ranging from rarely to always.
- ❖ Based on Linear regression analysis finding, The coefficient of determination, R^2 , is 0.136036 (13.6%). This means that close to 14% of the variation in the project sustainability is explained by community capacity building interventions.

5.2.4. Extent project monitoring and evaluation practice influence on sustainability of NGO implemented projects

The following are summary of findings related with project monitoring and evaluation practice.

- ❖ 92.1 % of respondents agrees and strongly agrees that farm Africa collects community feedback and recommendations
- ❖ 91.1 % of respondents agrees and strongly agrees that farm Africa use collects community feedback and recommendations or project implementation improvement.
- ❖ 85.1 % of respondents agrees and strongly agrees that farm Africa shares project progress and results to community members.
- ❖ Based on Linear regression analysis finding, The coefficient of determination, R^2 , is 0.206301 (20.6%). This means close to 21% of the variation in the project sustainability is explained by Monitoring and evaluation practice of the project.

Finally, multiple regression analysis conducted to determine the influence of all independent variables to project sustainability. And the following regression equation developed.

$$\text{Project sustainability} = 1.313229 + 0.126856\text{CP} + 0.09631\text{CB} + 0.312573 \text{ME} + \mu$$

5.3. Conclusion

1. Project sustainability

- ❖ Uptake of climate smart agriculture for improved agricultural productivity of smallholder farmers project is not sustainable (not continue benefiting community members after project close). On the other hand, enhancing market systems for improved sustainable livelihoods project is sustainable or communities continue benefiting from the project intervention after project close.

2. Level of Community participation

- ❖ Study findings revealed that, Farm Africa Ethiopia has participatory approach in project planning, implementation and monitoring and evaluation. Level of community participation is relatively low in project planning and high in project monitoring and evaluation process.

- ❖ Level of community participation has significant impact on project sustainability. Community participation and project sustainability have positive relationship. Based on the linear regression analysis, P-value, 0.000076 is less than the confidence level 0.1 (10%) and this implies that community participation has strong statistical significance to determine project sustainability.
3. Local community capacity building
- ❖ Capacity building interventions delivered by farm Africa Ethiopia projects were very relevant, appropriately designed and due to this majority of beneficiary communities use the knowledge and skill in their day to day farming practice.
 - ❖ Local community capacity building and project sustainability has direct relationship. According to linear regression analysis result, the multiple correlation coefficient is 0.36883. This indicates that the correlation among community participation and project sustainability is positive. Additionally, The coefficient of determination, R^2 , is 0.136036 (13.6%). This means that close to 14% of the variation in the project sustainability is explained by community capacity building interventions.
4. Project monitoring and evaluation practice
- ❖ Findings of the study shows that, farm Africa Ethiopia has well established monitoring and evaluations system that engages beneficiary community at large scale. Community feedback and recommendations properly collected and used for project implementation improvement.
 - ❖ Project monitoring and evaluation practice has significant influence on determining project sustainability.

5.4. Recommendations

1. Ensuring project sustainability is continuous and needs appropriate and well-designed project cycle management system and tool. Two studied projects implemented by the same organization but one is sustainable and the other is not. Therefore, Farm Africa Ethiopia (project implementer organization) need to develop and using standard and context appropriate project management system and practice. Additionally, Farm Africa and other project implementer NGOs need be developing a mechanism to assess sustainability of

projects after project completion and draw lessons for future project and program development.

2. Community participation has significant impact on project sustainability and NGOs should have develop a mechanism that enables community to participate in all program management cycles. The study reveals that, level of community participation is low at project planning stage and high in project monitoring and evaluation process. but should be equal in all project cycles. Therefore farm Africa and other NGOs need to increase community participation at planning stage. The level of participation has significant role to determine project sustainability. Therefore, NGOs need to improved meaningful community participation.
3. Local community capacity building is a key factor to ensure project sustainability. Study findings shows that relevant of capacity building topics has significant impact to make capacity building intervention successful. Therefore NGOs need to focused on selecting relevant capacity building topic, developing appropriate capacity building strategy and approach.
4. Community focused and appropriate monitoring and evaluation practice are the key factor to insure project sustainability. Therefore NGOs need to develop and establish well-functioning monitoring and evaluation system that enables to include local communities suggestion and recommendation.
5. In this study the researcher tries to assess sustainability and factor affecting sustainability of projects implemented by NGOs in Ethiopia, a case of farm Africa Ethiopia. Based on the study finding, close to 26% of the variation in the project sustainability is explained by level of community participation, community capacity building and Monitoring and evaluation practice of the project. This indicates that there are other variables that affects project sustainability and suggested for farther studies to identify these other factors affecting sustainability of projects implemented by NGOs in Ethiopia.

6. Reference

- Alger, C. (2002). The emerging roles of NGOs in the UN System: From Article 71 to a People's Millennium Assembly. *Global Governance*, 8(1), 93–117.
- Arnaud Diemer, (2019). Six Key Drivers for Sustainable Development. *Int J Environ Sci Nat Res.*; 18(4): 555994. DOI:10.19080/IJESNR.2019.18.555994
- Biwott, T., Egesah, O., & Ngeywo, J. (2017). Importance of Monitoring and Evaluation in the Sustainability of Constituency Development Fund (CDF) Projects. *IRA International Journal of Management & Social Sciences* (ISSN 2455-2267), 7(1), 45-51. doi:<http://dx.doi.org/10.21013/jmss.v7.n1.p6>
- Burns, N., & Grove, S. (2001). *The practice of nursing research: conduct, critique and utilization*. Philadelphia, Pennsylvania: W.B. Saunders.
- Cochran, W. G. (1963). *Sampling Techniques*, 2nd Ed.,: John Wiley and Sons, Inc. New York.
- De Vaus, D. A., & William, M.K. (2006). *Research Design in Social Research*. London: SAGE, 2001; Trochim, Research 2006.
- Garriga, Maica (2020): *Institutional Capacity Building*. Available from http://www.coastalwiki.org/wiki/Institutional_Capacity_Building [accessed on 3-01-2021]
- Hadi Noori, (2017). Department of Management Science, COMSATS Institute of Information Technology, Islamabad *Journal of Culture, Society and Development* ISSN 2422-8400 An International Peer-reviewed Journal Vol.30,
- Hamed Taherdoost (2016). *Sampling Method in Research Methodology; How to Choose a Sampling Technique for Research*. SSRN Electronic Journal · January 2016 DOI: 10.2139/ssrn.3205035
- Hulin, C., Netemeyer, R., and Cudeck, R. (2001). Can a Reliability Coefficient Be Too High? *Journal of Consumer Psychology*, Vol. 10, Nr. 1, 55-58.
- Jos van Beurden, (1998) Country Profile 1998. Retrieved November 22, 2020, from <http://www.crdaethiopia.org>

Kombo K & Tromp L. (2006). Proposal and Thesis Writing, an introduction. Nairobi: Pauline Publications.).

Langran, L.V. (2002). Empowerment and the Limits of Change: NGOs and Health Decentralization in the Philippine, Department of Political Science. Ph.D. Thesis, Toronto: University of Toronto.

Mesly Olivier (2017). Project Feasibility: Tools for Uncovering Points of Vulnerability: New York: CRC Press

Michael Bamberger & Shabbir Cheema, case studies on project sustainability, implication for policy and operations, The International Bank for Reconstruction and Development, the world bank 1818 H Street, N.W. Washington, D.C. 20433, U.S.A.)

Mohajan, Haradhan, (2017). Two Criteria for Good Measurements in Research: Validity and Reliability, Premier University, Chittagong, Bangladesh. https://mpa.ub.uni-muenchen.de/83458/1/MPRA_paper_83458.pdf

Morfaw, J. (2014). Fundamentals of project sustainability. Paper presented at PMI® Global Congress 2014—North America, Phoenix, AZ. Newtown Square, PA: Project Management Institute.

Nadia Gerspacher, Dr. Querine Hanlon & Nicholas Weiland , (2017). Sustainable Capacity Building: Guidelines for Planning and Project Design Communities Project Implemented by the US Institute of Peace

Njeri, J. W., 1* & Omwenga, (2019), Influence of monitoring and evaluation practices on sustainable projects – a case study of the national aids control council, Jomo Kenyatta University of Agriculture & Technology [JKUAT], Kenya

Paul, Samuel (1987). "Community Participation in Development Projects: The World Bank Experience." In Readings in Community Participation. Washington, D.C.: EDI. Chapter 2.

Penslar, Robin Levin and Joan P. Porter.(2010) Institutional Review Board Guidebook: Introduction. Washington, DC: United States Department of Health and Human Services.

Project Management Institute, PMBOK guide and standards. Retrieved June 26, 2020, from www.pmi.org

Raul Pacheco-Vega. (2017). NGOs and Sustainable Development. University of British Columbia, Vancouver, BC, Canada

Solow, R. (1999). Notes on Social Capital and Economic Performance. In Dasgupta, P., Serageldin, I. (Eds), Social Capital. A Multifaceted perspective. Washington: The World Bank

Thomaz Chianca, (2008). Journal of Multi Disciplinary Evaluation, Volume 5, Number 9 ISSN 1556-8180

Tomislav Klarin, (2018). The Concept of Sustainable Development: From its Beginning to the Contemporary Issues. Zagreb International Review of Economics & Business, Vol. 21, No. 1, pp. 67-94,

Wapner, P. (2003). World Summit on Sustainable Development: Toward a post-Jo'Burg environmentalism. Global Environmental Politics, 3(1), 1–10.

Internet links

<https://sustainabledevelopment.un.org>

www.pmi.org

[7. Annex](#)

7.1. Survey questioner

Survey questioner for project beneficiaries

Dear respondent,

First of all, I would like to thank you in advance for your willingness to spend your valuable time to respond to this research questionnaire. I am a student pursuing Masters of Arts Degree in Project Management at Addis Ababa university school of commerce. I am conducting an academic research to assess sustainability of development projects implemented by NGOs in Ethiopia, a case of farm Africa Ethiopia. The final result of this research will be used for academic purpose and the information you provided is used purely for academic purposes and will be treated with confidentiality. Your answer for all the questions genuinely and appropriately will be highly appreciated.

Thank you again for your cooperation and valuable time.

Yours sincerely,

Beniam Tilahun

Part One- General Information

1. Project Intervention woreda

- ☐ Tehuledere
- ☐ Ambasel
- ☐ Dewachefa
- ☐ Halaba
- ☐ Hadero
- ☐ Damot galle

2. Sex of respondent

- ☐ Male
- ☐ Female

3. Respondent age category

- ☐ 18 - 29 Years old
- ☐ 30 - 40 years old
- ☐ 41-50 Years old
- ☐ 51 - 60 Years old
- ☐ above 60 years old

4. Marital status of the respondent

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Widowed
- ☐ Don't want to tell

5. Total number of children the respondent has?_____

6. Education level of respondent

- ☐ No education at all - is illiterate
- ☐ No education at all - can read & write
- ☐ 1-4 grade
- ☐ 5-8 grade
- ☐ 9-12 grade

☐ 12th complete & above

7. Respondent Household major means of livelihood

- ☐ Crop production
- ☐ Livestock production
- ☐ crop and livestock
- ☐ Trade or Service
- ☐ Salary/wage
- ☐ Direct cash support from different sources
- ☐ Other (please specify)

8. Household farm land size in hectare:_____

Part two - Projects sustainability

The below listed questions are about getting benefit during project intervention time. By referring that time, would you tell us your level of agreement for each statement

9. I received regular market and weather information via mobile SMS, radio or mobile application from Farm Africa Ethiopia project interventions in my area

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

10. I received regular training on market and weather information interpretation and use from Farm Africa Ethiopia project interventions in my area

- ☐ Strongly disagree

- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

11. I received periodic training on climate smart agricultural practices from Farm Africa Ethiopia project interventions in my area

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

12. I received improved agricultural seed support from Farm Africa Ethiopia project interventions in my area

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

13. 1Due to Farm Africa Ethiopia project interventions in my area, I get access for improved agricultural inputs and tools in my locality

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral

☐ Agree

☐ Strongly agree

14. I benefited from market linkage created by the project from Farm Africa Ethiopia project interventions in my area

☐ Strongly disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly agree

Note: The below questions are asking about the continuation of project intervention benefit after project close. based on this, would yo tell us your level of agreement for the following statements.

15. Currently I have been getting regular market and weather information via mobile SMS, radio or mobile application

☐ Strongly disagree

☐ Disagree

☐ Neutral

☐ Agree

☐ Strongly agree

16. 1Currently I used the knowledge I get from the training given by farm Africa on climate smart agricultural practices, market and weather information interpretation and use

☐ Strongly disagree

☐ Disagree

- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

17. Currently I have access for improved agricultural inputs and tools in my locality

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

18. Currently I am getting benefits from market linkage created by the project

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

Part three: Community participation in project cycle management

Note: The below questions are asking about your (beneficiary community) participation on project planning implementation and monitoring and evaluation process.

19. From the below listed level of participations, which one explains your level of participation at project planning stage?

- ☐ Co-option: we select Local representatives are chosen, but they have no real input or power.

- ☐ Compliance: Tasks are assigned with us, but farm Africa decide the agenda and direct the process.
- ☐ Consultation: our opinions are asked for, and farm Africa analyze and decide on a course of action.
- ☐ Cooperation: we work together with farm Africa to determine realities; responsibility remains with Farm Africa for directing the process
- ☐ Collective action: we set their own agenda and mobilize to carry it out, in the absence of Farm Africa initiation and facilitation
- ☐ Co-learning: we and farm Africa share knowledge to create a new understanding, and work together to form action plans, with farm Africa Facilitation
- ☐ None – never participated at all

20. From the below listed level of participations, which one explains your level of participation at project Implementation process?

- ☐ Co-option: we select Local representatives are chosen, but they have no real input or power.
- ☐ Compliance: Tasks are assigned with us, but farm Africa decide the agenda and direct the process.
- ☐ Consultation: our opinions are asked for, and farm Africa analyze and decide on a course of action.
- ☐ Cooperation: we work together with farm Africa to determine realities; responsibility remains with Farm Africa for directing the process
- ☐ Collective action: we set their own agenda and mobilize to carry it out, in the absence of Farm Africa initiation and facilitation
- ☐ Co-learning: we and farm Africa share knowledge to create a new understanding, and work together to form action plans, with farm Africa Facilitation
- ☐ None – never participated at all

21. From the below listed level of participations, which one explains your level of participation at project monitoring and evaluation process?

- ☐ Co-option: we select Local representatives are chosen, but they have no real input or power.
- ☐ Compliance: Tasks are assigned with us, but farm Africa decide the agenda and direct the process.
- ☐ Consultation: our opinions are asked for, and farm Africa analyze and decide on a course of action.
- ☐ Cooperation: we work together with farm Africa to determine realities; responsibility remains with Farm Africa for directing the process
- ☐ Collective action: we set their own agenda and mobilize to carry it out, in the absence of Farm Africa initiation and facilitation
- ☐ Co-learning: we and farm Africa share knowledge to create a new understanding, and work together to form action plans, with farm Africa Facilitation
- ☐ None – never participated at all

Part Four: Local community capacity building

22. Did you participate in any type of training organized by farm Africa Ethiopia?

- ☐ Yes
- ☐ No

23. If yes, from the following select one or more training topics you participated

- ☐ Training on the weather and market information access and use by SMS service
- ☐ Training on market and weather information use by smartphone app
- ☐ Training on business skill (marketing) record keeping and product storage and display

- ☐ Training on pre and post harvesting handling of seed and marketing
- ☐ Experience sharing on seed production and marketing
- ☐ Training on improved agronomic practice, irrigation water application and post- harvest-handling
- ☐ Training on new and improved agricultural production technologies and practices
- ☐ Training on solar water pump technologies through cost shared approach to end users

24. If you participated in any one or more of the above listed trainings, how do you rate the relevance of the trainings to manage your farming in sustainable manner?

- ☐ Not relevant at all
- ☐ Fairly relevant
- ☐ Relevant
- ☐ Very Relevant
- ☐ Extremely relevant

25. Do you agree that trainings enabled you to acquire necessary skills and opportunity to improve your abilities to perform agricultural practices in a better way?

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

26. How frequently you used the knowledge and skill you get from trainings organized by the project in your day to day agricultural practice?

- ☐ Never
- ☐ Rarely
- ☐ Occasionally / Sometimes
- ☐ Often
- ☐ Always

Part Five: Project monitoring and evaluation

The below questions are about community participation on the monitoring and evaluation process. would you please tell us your level of agreement for each statement described below

27. Farm Africa participates beneficiary community on project monitoring activity activities

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

28. In the monitoring process community suggestions and recommendations asked and recorded

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

29. Farm Africa uses community feedback and comment in the project implementation

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

30. Farm Africa shares project progress result to community

- ☐ Strongly disagree
- ☐ Disagree
- ☐ Neutral
- ☐ Agree
- ☐ Strongly agree

31. How many times you participated in the monitoring process in one year?

- ☐ Not participated at all
- ☐ One times a year
- ☐ Two times a year
- ☐ Three times a year
- ☐ Four and more times in a year

Thank you for your time and genuine response!!